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A

TREATISE

ON THE

THEORY AND MANAGEMENT

OF

ULCERS:

WITH A DISSERTATION ON

WHITE SWELLINGS OF THE JOINTS.

TO WHICH IS PREFIXED, AN

ESSAY ON THE CHIRURGICAL TREATMENT

OF

INFLAMMATION AND ITS CONSEQUENCES.

BY

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A NEW EDITION.

Ad utilitatem vitæ omnia consilia factaque nostra dirigenda sunt. TACIT.

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TO

PERCIVAL POTT, Esq.

F. R. S.

And SURGEON to St Bartholomew's
Hoſpital, LONDON.

SIR,

THE extenſive practice in which you have been long engaged, and the nany uſeful improvements, founded on xperience, which you have introduced nto Surgery, deſervedly raiſe you to an eminent rank in your profeſſion.

This alone would induce any practitioner to court the honour of your protection to his firſt publication. But I might juſtly be accuſed of ingratitude, if I did not alſo ſeize this occaſion of publicly acknowledging my obligations to you, and of expreſſing my grateful ſenſe of the advantages which I enjoyed, when I had

an opportunity, not only of obſerving your practice in Surgery, but of becoming acquainted with the principles and opinions by which it was directed.

To render theſe ſentiments of my reſpect and gratitude as public as they are ſincere, was my only view in this addreſs. To ſay more, or to aſſume the uſual language of dedication, would, I know, be offenſive to you. Permit me to add, that I am, with great reſpect,

SIR,

Your obliged,

And obedient humble ſervant,

BENJAMIN BELL.

EDINBURGH, Jan. 20. 1784.

PRE-

PREFACE.

SINCE the commencement of the present century, very confiderable improvements have been made both in Medicine and in Surgery. The latter particularly, during the courfe of this period, feems to have been enriched with more real knowledge than it was ever before poffeffed of.

From this confideration, it may poffibly be alleged by fome, that nothing new can now be offered on the fubject of Surgery; and therefore, that any farther publication in that line muft, in fome meafure, be fuperfluous. Although much, however, has been written, and a great deal of light thrown upon the principal and more leading parts of Surgery; yet ftill, from lefs attention having been paid to fome of its branches, there are many chirurgical difeafes which are neither fo well underftood, nor fo accurately treated, as we might otherwife have expected.

This feems, in a great meafure, to proceed from the fame and reputation commonly acquired by fuccefs in the more capital operations of Surgery; which having a greater effect with the public than the moft fuccefsful treatment of complaints not evidently of fo much confequence, has naturally prevented practitioners from paying to difeafes of this nature that attention which they certainly deferve.

And in confequence of this, though the real operative part of the profeffion is, in general, carried to as great perfection as it may probably ever attain; yet Surgeons daily meet with diforders which baffle all their ingenuity; by their failure in which, not only their own private reputation, but that of the art in general, fuffers more than can be ever compenfated by any temporary eclat from an operation.

Many complaints might be enumerated, which have fuffered from fuch neglect; but none, it is prefumed, are in general lefs underftood than fome of thofe which make the fubjects of the following Effays. The theory and treatment of Ulcers efpecially, although a great deal has been written concerning them, are ftill very defective: The defcriptions given of them by authors are fo tedious, and the diftinctions fo complicated and various, that, to a young practitioner particularly, it is no eafy matter, either to comprehend rightly fuch diftinctions, or to apply the different remedies recommended for each.

Applications and medicines for ulcers, as pointed out by foreign writers efpecially, are indeed fo numerous, and frequently fo contradictory, that even the oldeft practitioners find it impoffible to reconcile them to reafon; but being generally recommended as in confequence of experience, that circumftance alone makes them too frequently adopted,

adopted, without being examined into; whereas a little attention would render it evident, that few publications on this ſubject, which have appeared for perhaps a century paſt, contain any thing new, the practice pointed out by all of them being in general merely copied by one author from another.

It was this, together with my meeting with more frequent diſappointments in the cure of ulcers than of any other complaint, which made me firſt pay more particular attention to their management; in conſequence of which, I found a much leſs complicated treatment than had been generally recommended, prove more efficacious, and a great deal of trouble ſaved thereby both to my patients and myſelf. How far the ſame methods may with others be found to ſucceed, I ſhall not pretend to ſay: This, however, I muſt obſerve, that there is nothing recommended in the following ſheets, but what has been confirmed by repeated experience.

I am far from imagining, however, that any thing I have to advance, either exhauſts the ſubject, or renders farther improvements in it unneceſſary. But whatever deficiencies the preſent publication may labour under, this advantage may at leaſt be expected from it, that it will point out to others a material branch of Surgery, which for a long time has been very much neglected; a ſubject, too, that ſtill deſerves their attention,

and in which many uſeful improvements are yet probably to be made.

The treatiſe on inflammation and its conſequences was read, ſeveral years ago, before the College of Surgeons of this place; and as it was approved of by ſome of my friends, I now inſert it here, with ſome additions and alterations: As many of the obſervations, too, relating to inflammation, apply with equal propriety to different circumſtances of ulcers, the conſideration of that ſubject could not, it was preſumed, be any where more properly introduced.

White ſwellings of the joints is another complaint, in the treatment of which we are exceedingly deficient; and I am ſorry to obſerve, that what I have to offer upon it, does not tend ſo much to its farther elucidation as I could have wiſhed. But no regular account having ever been given of white ſwellings; and as I have had many opportunities, both of ſeeing ſuch complaints treated in the ordinary way, and of diſſecting the diſeaſed joints after amputation, I thought it might prove acceptable to my reader to have a full account of the practice employed in them, as well as of the obſervations I have made in diſſections. This I have endeavoured accurately to do; but having nothing altogether ſatisfactory to communicate on the method of cure, prolixity on any other part of the ſubject would not, I know, to the generality of practitioners, prove very acceptable.

I

I muſt here obſerve, however, that although nothing very material be pointed out in the treatment of the more inveterate ſpecies of white ſwelling; yet the diſtinction propoſed to be eſtabliſhed, of ſuch diſorders, into two diſtinct ſpecies, is a matter of no inconſiderable importance. Swellings of this nature are evidently produced by two ſets of very different cauſes; the one occaſioning a diſeaſe which will probably be always conſidered as incurable; and the other a complaint which may frequently not only be palliated, but even completely carried off. Practitioners ought therefore, in all ſuch diſorders, to be as accurate as poſſible in diſtinguiſhing the different cauſes which appear to have produced them; and not indiſcriminately to conſider every caſe of white ſwelling as incurable, and to proceed accordingly, as is generally done, to immediate amputation.

As the former editions of this work have met with a very favourable reception, I have conſidered it as a duty which I owe to the public, to do all in my power to render this *fourth* edition of it as correct as poſſible: Much pains have therefore been beſtowed upon it; a good deal of new matter is now introduced; every late improvement relating to the ſubjects treated of is taken notice of; and to the whole a copious Index is added.

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CHI-

CHIRURGICAL ESSAYS.

PART I.

On INFLAMMATION and its Consequences.

SECTION I.

Of the Symptoms and Causes of Inflammation.

AS Inflammation is, in many disorders, and especially in Wounds, Contusions, and Ulcers, the most troublesome symptom with which Surgeons have to contend, an investigation of its causes,

of the circumſtances attending it, and of the method of treatment beſt adapted to its removal, muſt neceſſarily be conſidered as an object of importance: This is accordingly a ſufficient reaſon for its conſideration being introduced as one of the firſt articles in every chirurgical diſſertation.

Inflammation, it is well known, is an affection to which every organiſed part of the body is liable. But, as its attacks upon the internal parts are generally attended with ſymptoms, the treatment of which more properly belongs to the province of Medicine, we do not at preſent intend to enter upon the diſcuſſion of theſe; but merely to conſider the complaint, with its ſeveral conſequences, as it is moſt frequently obſerved to occur externally. And as the greateſt part of the phænomena that in general attend it, will be underſtood from the conſideration of phlegmon or local inflammation, we propoſe more particularly to confine our obſervations to that ſpecies of the diſorder.

§ I.

§ 1. *Of the Symptoms and Terminations of Phlegmon.*

Phlegmon is a term commonly applied to a circumscribed tumor, attended with heat, redness, tension, and a throbbing pain. These are the first appearances observed in every case of phlegmon; and when they are slight, and the part affected is of no great extent, they have commonly very little, and sometimes no apparent, influence on the general system. But, when they are more considerable, and the inflammation becomes extensive, a full, quick, and generally a hard, pulse takes place; and the patient, at the same time, complains of universal heat, thirst, and other symptoms of fever.

If, either by an effort of nature, or by the application of proper remedies, the pain, heat, and tension, are removed, the other symptoms we have mentioned, and which in a great measure or altogether depended on these, likewise abate, and the patient soon gets well. This is reckoned the first, and is generally the most desire-

able, manner in which inflammation terminates, and is termed Refolution.

If, however, in the courfe of a fhort time, and notwithftanding the application of the ufual remedies, the feveral fymptoms of heat, pain, and rednefs, inftead of diminifhing, rather increafe; if the febrile fymptoms are likewife augmented, and the tumor gradually acquires a larger fize, turns foft, fomewhat prominent in the middle, or towards its moft depending part, gets a clear fhining appearance, and becomes lefs painful; the different fymptoms of fever then abate, and a fluid, upon preffure, is found to fluctuate underneath. In this manner inflammation is faid to terminate in what is termed Suppuration.

But if the pain, rednefs, and tenfion of the part increafe, while the fulnefs of pulfe and other febrile fymptoms are augmented, at the fame time that there is little change in the tumor in point of fize, there is then great reafon to fufpect that Gangrene or Mortification will take place.

Mortification firft appears by a change

of

of colour in the part affected, which, from being of a bright red, comes to acquire a leaden or livid caft, while fmall veficles, containing a thin acrid ferum, are difperfed over its furface—the pain abates—the pulfe finks—but continues frequent—the tumor at laft lofes its tenfenefs—turns black and flaccid—and thus terminates in a real mortified or dead fpot.

Thefe are the feveral ordinary confequences of inflammation. By many authors, however, another diforder has been treated of as one of its terminations, *viz.* Scirrhus. But although that complaint does, perhaps, in fome inftances, fucceed to inflammation, yet it is far from being a common confequence of it: fo that, tho' inflammatory affections may juftly enough be mentioned as one of the many exciting caufes of Scirrhus, yet the confideration of that diforder can never with propriety, it is prefumed, be introduced in a treatife on Inflammation.

The different appearances which in general occur in phlegmon being thus pointed

out, together with the manner in which they ufually terminate, we fhall now proceed to the confideration of the moft frequent exciting caufes of the diforder, and likewife of that which appears moft probably to be the immediate or proximate caufe; and fhall conclude with the prognofis, and method of treatment adapted to the feveral modes in which the difeafe is found to terminate.

§ 2. *Of the exciting and predifpofing Caufes of Inflammation.*

THE exciting caufes of inflammation, are in general whatever tend to ftimulate, or to produce pain and irritation: Such as, wounds of all kinds, whether fimple, lacerated, or punctured, and with whatever inftrument they may be produced—alfo bruifes and burns, whether by the actual or potential cautery—likewife all corrofive and irritating applications, as, the different ftrong acids, cantharides, and all the clafs of rubefacientia. Ligatures may likewife be mentioned, and tumors that act as ligatures

gatures by producing an undue compression on any of the blood-vessels and nerves; as also, violent exercise of any particular member, and cold applied to a particular part.

These are the most common external causes of phlegmon: but there are some others which tend to produce the same effect, which we are to consider entirely as of an internal kind; such are the different vitiated states of the fluids, excited by the presence of morbid matters of different kinds, as those of Lues Venerea, Small Pox, Measles, and Scrophula. Fevers too that end in critical inflammations and consequent abscesses, seem likewise to act in the same manner.

Under one or other of these heads are comprehended, we presume, almost all the exciting causes of inflammation. It is not improper, however, here to observe, that there are other causes, which, with propriety, may be said to be of the predisposing kind, by tending to produce such a state of the system, as renders it more

ſuſceptible of inflammatory complaints than naturally it ought to be. The moſt remarkable of theſe is, a full plethoric habit of body, induced either by a very nouriſhing diet, or by want of exerciſe; or, perhaps, by a combination of both. Theſe diſorders, too, are obſerved to be more frequent in young than in old people, and in men more than in women.

§ 3. *Of the proximate Cauſe of Inflammation.*

VARIOUS opinions have been delivered with reſpect to the proximate cauſe of inflammation: many of which, by not having much probability to ſupport them, have never been generally admitted; and others, after having prevailed for a time, have at laſt too been rejected.

The doctrine on this ſubject, which for ſome years has prevailed in this Univerſity, as it readily accounts for the action of the ſeveral exciting cauſes of Inflammation, for the effects of the diſorder, and for the operation of the medicines employed in the cure, will in future be probably

con-

considered as explaining with most clearness the proximate cause of all inflammatory affections.

From observing the different phænomena which occur in inflammation, an increased action of the vessels of the part affected seems in every case evidently to take place; and as, from an increased action in the arteries of a part, all the circumstances of inflammation are easily explained, we are induced, therefore, to consider such a state of the vessels as the proximate cause of the disorder.

This opinion, as we have already observed, is greatly supported from a review of the several exciting causes of inflammation; which being in general of an irritating or stimulating nature, their application to any living or sensible parts, must of course be always productive of a preternatural exertion of the vessels in such parts. Thus, to reason from analogy, we observe, that sternutatories applied to the internal membrane of the nose—the aliments to the stomach and intestines—and the blood to the internal

internal ſurface of the veſſels in which it is contained, all ſerve as ſo many ſtimulants to action in theſe different parts; and in the ſame manner, corroſive or other irritating ſubſtances, when applied to the coats of the arteries, naturally in them produce the ſame effects as in other muſcular organs.

We thus in a very probable manner account for the action of all direct ſtimulants in the production of inflammation. It frequently happens, however, that inflammation takes place when the application of ſtimulants, or irritating ſubſtances, cannot in any degree be ſuſpected. In ſuch caſes, the increaſed action of the arteries, and of the heart when it occurs, ſeems to be ſupported by a ſpaſm or conſtriction of the extreme veſſels, either of a particular part, or of the general ſyſtem. And hence, from the known tonic or aſtringent power of cold, we account for the frequent occurrence of inflammatory affections in our cold ſeaſons of winter and ſpring; and hence, too, the throat and lungs are more eſpecially ſubject to

diſorders

disorders attended with inflammation, from these parts being more particularly liable to the immediate action of cold.

Dr Cullen, who considers spasm as the sole proximate cause of inflammation, when treating of this subject, says, " That a spasm of the extreme vessels takes place in inflammation, is presumed from what is at the same time the state of the whole arterial system. In all considerable inflammations, though arising in one part only, an affection is communicated to the whole system; in consequence of which, an inflammation is readily produced in other parts besides that first affected. This general affection is well known to physicians, under the name of *Diathesis Phlogistica.* It most commonly appears in persons of the most rigid fibres; is often manifestly induced by the tonic or astringent power of cold; is increased by all tonic and stimulant powers applied to the body; is always attended by a hardness of the pulse; and is most effectually taken off by the relaxing power of blood-letting. From

these circumstances, it is probable, that the diathesis phlogistica consists in an increased tone, or contractility, and perhaps contraction, of the muscular fibres of the whole arterial system *."

An increased action in the vessels of a part, being admitted as the proximate cause of inflammation, we can pretty certainly account for the operation of the several predisposing causes; and upon the same supposition may be explained the different symptoms which occur in the course of the disorder.

Thus the increased action of an artery, by forcing or propelling into the smaller sets of vessels, red globules, and other dense parts of the blood which they cannot easily transmit, very readily accounts for the redness, tumor, tension, and throbbing pain, which occur in every case of phlegmon: As likewise, in some measure, for the augmentation of heat, which increased attrition must in such cases always produce. It is probable, however, that the accumulation of

* See First Lines of the Practice of Physic, p. 88.

of animal heat alone, which must necessarily arise from a larger proportion of blood being sent to a part than what naturally it should receive, will have a considerable influence in the production of an increased degree of heat.

The method of cure, as we have already observed, tends also to confirm the general doctrine with respect to the cause. Thus the most effectual remedies, in almost every case of inflammation, are exactly such as would be recommended for the removal of an increased tone in any particular part, were we convinced that this alone was the disease, *viz.* A low diet, blood-letting, with other weakening evacuations, together with emollient sedative applications: but this, when we come to speak more particularly of the different remedies, will more fully appear.

In almost every case of external inflammation, except, perhaps, when it is very extensive, and runs deep, and the different symptoms are all very violent, the prognostic should in general be favourable.

For,

For, if Resolution, which is the easiest and most desirable termination of the disorder, is not effected, Suppuration will most readily be the consequence; and the danger attending it in that state, if the constitution is otherwise healthy, is not commonly very material.

When, however, the inflamed part is of any considerable extent, while the different local and general symptoms of fever at the same time are violent, a good deal of danger is to be dreaded. For, independent of the risk to the constitution from the fever itself, if the symptoms continue high for any length of time, without showing some tendency either to Resolution or Suppuration, Gangrene will pretty certainly follow; and in what manner that may terminate, is always uncertain.

SECTION II.

Of the Treatment of Inflammation by Resolution.

§ 1. Resolution of inflamed Tumors is, in some instances, not to be attempted.

IN the treatment of phlegmon, the principal circumſtance, in general, to be kept in view, is its reſolution; as being by much the ſafeſt and moſt ſpeedy method of cure. I have ſaid, however, only in general; as in ſome particular caſes it is otherwiſe, and Reſolution is by no means to be attempted.

Thus, inflammatory ſwellings, that occur in, or ſucceed to, fevers, and other internal diſorders, ought always to be brought to ſuppuration; for nature in that way pointing out an exit for ſome ſuperabundance of fluids exiſting in the ſyſtem,

ſtem, it might probably be attended with danger to give her any interruption. It is, indeed, on the contrary, always in ſuch caſes the ſafeſt practice to aſſiſt her as much as poſſible, by the uſe of ſuch applications as will moſt readily bring the ſwellings to ſuppuration.

There are other tumors again, proceeding from an internal cauſe too, in which it is perhaps beſt to do nothing at all either with a view to reſolve or ſuppurate, but juſt to leave them entirely to nature.

Thus, in ſwellings of this kind, which ſometimes appear in ſcrophula, it might be dangerous to make uſe of repellent applications, at the ſame time that it is not often adviſeable to promote their ſuppuration, from their treatment, when opened either by nature or art, proving always very troubleſome. And ſuch ſwellings, it is well known, may remain for a great length of time, without any ſort of riſk to the patient; ſo that, in general, we think it moſt prudent never to meddle with them.

In Lues Venerea too, as we are poſſeſſed of

of almost a certain antidote for the disorder; and as buboes, and other inflammatory swellings that occur in it, are commonly, when opened, exceedingly troublesome, and very difficult of cure; it is perhaps, for these reasons, the most prudent practice always to attempt their discussion: And this more especially, as their being brought to suppuration, can by no means free the patient from the disorder; but leaves him, on the contrary, under as great a necessity of undergoing a mercurial course, as if no evacuation from the tumor had taken place.

In cases of Erysipelas likewise, which is a *species* of inflammation, but which is easily distinguished from real phlegmon, by the colour of the inflamed part not being of such a bright red, but having a more dark copper-like appearance; and by any swelling that occurs in it, not rising evidently into a tumor, but being rather diffused, and ending as it were imperceptibly upon the surrounding parts: in such cases, we should always endeavour to remove the disease by discussion; as, when swel-

lings of this nature come to a ſuppuration, they ſeldom either afford good pus, or heal kindly when opened.

So that, the only caſes in which we ſhould not attempt the reſolution of inflammatory ſwellings, are ſuch, as are either of a ſcrophulous nature, or appear to be evidently critical in ſome diſorder; and this, whether in fevers, or other internal diſorders of even a chronic nature. But whenever the exciting cauſe has been of an obvious external kind, and eſpecially when the complaint is not as yet far advanced, we may then always proceed with ſafety and freedom in what is termed the Repelling Method.

§ 2. *Of the Remedies to be employed for the Reſolution of an inflamed Part.*

In caſes of incipient phlegmon, when the ſymptoms are not ſo violent as to have affected the general ſyſtem, topical remedies merely, with a due attention to regimen, often anſwer in diſſolving them. But when, on the contrary, the inflammation runs

runs high, with general ſymptoms of fever, it then becomes neceſſary at the ſame time to pay attention to theſe.

In every caſe of phlegmon, it has been the prevailing practice to have recourſe to warm fomentations and cataplaſms: but, as warm emollient applications of all kinds have the moſt powerful influence in promoting ſuppuration, as will hereafter be more particularly taken notice of, and as is allowed indeed by every practitioner, the uſe of ſuch remedies, while the reſolution of ſwellings is practicable, muſt therefore, it is evident, be attended with much impropriety.

The firſt circumſtance to be attended to, in every caſe of phlegmon, when reſolution of the tumor is to be attempted, is the removal of all ſuch exciting cauſes of the diſorder, as may happen to preſent themſelves: Such as, extraneous bodies in wounds; pieces of fractured bones; luxations; and, in ſhort, whatever may appear to have had the leaſt influence in keeping up the inflammation.

Of the various applications uſually employed for an inflamed part, thoſe of a ſedative nature are chiefly to be depended on; and, next to theſe, emollients.

Of the former kind, may be conſidered all the different preparations of lead diſſolved in vinegar; and it is preſumed too, that the vegetable acid, by itſelf, likewiſe acts as a ſedative.

As emollients, all the bland expreſſed oils are often uſed with advantage; as alſo ointments of a ſoft conſiſtence, made with any of theſe and pure wax.

§ 3. *Remarks on the Preparations of Lead, and other ſedative Applications.*

It is not, in any part of this diſſertation, propoſed to enter into minute diſcuſſions on the *modus operandi* of ſuch medicines as may be recommended; as that would not only extend the length of it much farther than is intended, but, to many, would probably appear to be ſuperfluous. It may not, however, in ſome circumſtances, be improper, to deviate ſo far from the general plan,

as

as to render as obvious as possible, the propriety of what at any time may be advanced: for mere practical assertions, unsupported by some foundation in reason, can never, it is imagined, prove either so useful or so agreeable as they might otherwise be.

With respect to the use of sedative applications in cases of external inflammation, it is not by any means intended to recommend, universally, the whole class of medicines, which in different circumstances are found to be of this nature. Thus, opium, though one of the most powerful of all sedatives, yet, as its external application to the human body is usually attended with some degree of irritation, however useful it may at times have been found in some particular species of inflammatory affections, it will never probably, as an external application, become of general use in such disorders.

Warm emollient fomentations, too, though they no doubt are very powerful sedatives, as tending, from their nature, more effectually to remove tension and

pain, than perhaps any other remedy with which we are acquainted; yet, from a great deal of experience of their effects, in different local inflammations, I have long been convinced, that when the refolution of inflamed tumors is wifhed for, fuch applications are almoft always improper: For they conftantly either tend to bring fwellings of this nature to fuppuration, that might otherwife have probably been difcuffed; or, when not attended with this effect, they very commonly induce fuch a relaxed ftate of the parts, as renders the thorough removal of the diforder always exceedingly tedious.

Upon a proper examination of all the different articles faid to be of a fedative nature, fimilar exceptions to their ufe in every cafe of phlegmon might perhaps be made to the greateft part of them.

So far, however, as my experience goes, together with that of many others of this country, as well as of Mr Goulard and other French practitioners, no fuch reafons have occurred againft the ufe of lead and

its preparations in ſuch caſes. On the contrary, indeed, it may be certainly affirmed, that, as diſcutients in inflamed tumors, they prove more ſerviceable by much than any other application in ordinary uſe.

And although Mr Goulard, in extolling a favourite remedy, has been induced to aſſert its effects to be more general and more conſiderable than they probably will ever be found to be; yet ſtill the world is much indebted to him: not, however, for a *new* medicine, as every preparation of lead, recommended by him, was formerly, in ſome form or other, known to every practitioner; but for introducing to a *more general* uſe, a very effectual remedy for the diſcuſſion of inflammatory ſwellings.

With reſpect to the preparations of lead being here ſaid to be of a *ſedative* nature, the term, it is imagined, is far from being improperly employed; not only from many of the more ſtriking effects of lead, when taken internally, being all evidently of a ſedative tendency, but from its im-

mediate and obvious operation when applied externally to an inflamed part: which, when the preparation is of a proper ſtrength, is almoſt conſtantly an abatement of the different ſymptoms of pain and tenſion, at the ſame time that there is communicated an agreeable ſoothing ſenſation to the part.

Having likewiſe, to a certain degree, in particular circumſtances, obſerved the ſame effects from the vegetable acid, it could not, it was ſuppoſed, be ſo properly taken notice of under any other head.

Mr Goulard, in his diſſertation upon the external uſe of the preparations of lead, recommends them as almoſt equally proper in every ſtage of inflammation. Even when tumors have come to a full ſuppuration, a proper uſe, he ſays, of his *Extractum Saturni*, not by its repelling quality, for he will not allow it to be poſſeſſed of ſuch, but by its occaſioning an exſudation of the contained matter, renders it almoſt always unneceſſary to open them.

The ſame remedy is likewiſe mentioned by

by him as a proper application in every case of gangrene. From my own experience, however, of the preparations of lead, I cannot take upon me to recommend them in either of these cases. I have indeed made trial of them in gangrenous cases, but without any evident effects being produced by them: and, however strongly they may be recommended by Mr Goulard, in the cure of abscesses, or collections of completely formed pus, I must own, that, in this state of the disorder, I never thought of employing them. So that it is in the real inflammatory state of the complaint only, and while a cure by discussion may still be expected, that such applications are here meant to be advised.

From the known deliterious effects of lead when taken into the system, an objection has, by some authors, been raised against a free use of the preparations of it, even when externally applied.

That lead, in different forms, has, upon being taken into the constitution, frequently proved poisonous, there is no reason

fon to doubt; and that, in fome particular inftances, difagreeable fymptoms have occurred, where fome of the preparations of lead have been externally ufed, is alfo pretty certain. That fuch bad fymptoms, however, if they were not merely accidental from fome other caufe, are, at leaft in general, very rare effects of the remedy in queftion, I can venture, I think, certainly to affirm. For in all the experience I have had of the external application of lead and its preparations, and in many cafes, particularly of burns, I have known the greateft part of the whole furface of the body covered with them for days, nay, even for weeks together, I do not recollect a fingle inftance of any difagreeable fymptom being ever produced by them.

Of all the preparations of lead for external ufe, *Saccharum Saturni* is perhaps equal, if not fuperior, to any, as it has all the advantages of the others, with this difference, that, in it, we are much more certain of the exact ftrength of our preparation, than we can ever be with any other.

For

For although in the *Extrait de Saturn* of Goulard, as likewise in the *Acetum Lythargirites* of our Dispensatories, which are both, it may be observed, very nearly the same, we may be very certain of the quantity of lead employed to the vinegar; yet we can never, but by crystallisation, know exactly, or even nearly, how much of the former the menstruum may have dissolved, as that must depend upon a variety of accidents, and particularly on the strength of the acid, and exact degree of heat employed; which are circumstances we have not always in our power exactly to regulate. For these reasons, therefore, the salt, or sugar of lead as it is called, should, for external use, be always preferred.

The best mode of applying the remedy, seems to be in the form of a watery solution; for the preparation of which, the following proportions are, in general, found to answer:

℞. Sacchar. saturn. unc. ss.
Solve in acet. pur. unc. iv.
Et adde aq. fontan. destillat. lb. ii.

The

The addition of vinegar renders the ſolution much more complete than it otherwiſe would be; and without it, indeed, when ſuch a large proportion of the lead is uſed, a conſiderable part of it commonly ſeparates and falls to the bottom.

This is the form which I commonly employ for the uſe of this remedy; but as Goulard's extract and water are preferred by many, I think it right to mention his method of preparing them.—The extract is prepared as follows.

To each quart, containing thirty-two ounces, of French wine-vinegar, add one pound of litharge of gold. Put them into a glazed earthen veſſel, and let them ſimmer for an hour, or an hour and a quarter, upon a gentle fire, taking care to ſtir them during the ebullition with a wooden ſpatula: The veſſel is now to be removed from the fire; and the fæces being allowed to ſubſide, the liquor upon the top muſt be poured into bottles for uſe.

The water uſed by Mr Goulard, which he terms the *Vegeto-mineral water*, is prepared

pared by adding two tea-ſpoonfuls, which he ſpecifies to be one hundred drops, of this extract, to a quart of water, and four tea-ſpoonfuls of brandy. The quantity of the extract and brandy to be diminiſhed or increaſed according to the nature of the diſorder, or degree of ſenſibility in the part affected.

In making uſe of either of theſe ſolutions in caſes of inflammation, as it is of conſequence to have the parts affected kept conſtantly moiſt, cataplaſms prepared with them and crumb of bread, in general anſwer that intention exceedingly well. But, when the inflamed part is ſo tender and painful as not eaſily to bear the weight of a poultice, a circumſtance by no means uncommon, pieces of ſoft linen, moiſtened with the ſolution, anſwer the purpoſe tolerably well: Although, when this objection to the uſe of cataplaſms does not occur, as they retain the moiſture longer, they ſhould always be preferred. Theſe applications ſhould be always made when cold, or at leaſt with no greater warmth than is merely

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neceſſary for preventing pain or uneaſineſs to the patient; they ſhould be kept almoſt conſtantly at the part, and renewed always before turning ſtiff or hard.

Among the remedies recommended for external uſe in caſes of inflammation, we mentioned Emollients. Theſe, when the tenſion and irritation on the ſkin are conſiderable, prove often very ſerviceable: the parts affected, being, in this ſtate of the diſorder, gently rubbed over with any of the mild expreſſed oils two or three times a day, the tenſion, irritation, and pain, are thereby much relieved, and the diſcuſſion of the tumor thereby greatly promoted.

In every caſe of inflammation, indeed, emollient applications would afford ſome relief. But as the preparations of lead already recommended, prove, in all ſuch diſorders, ſtill more advantageous; and as unguents of every kind tend conſiderably to blunt the action of lead; theſe two ſets of remedies ſhould as ſeldom as poſſible be allowed to interfere with one another: And emollients ſhould, accordingly, never be

be prescribed, but when the circumstances already mentioned, of irritation, tension, and pain, are so considerable as to render their application altogether necessary.

Unctuous substances have likewise been condemned in cases of this nature, but upon a different principle; viz. from their tending to stop the pores, and consequently to obstruct the perspiration of those parts to which they are applied. It is not, however, probable, that in this way they could prove very hurtful in preventing the resolution of inflammation; which must always, it is imagined, be effected in a very different manner than by perspiration.

When the part affected with inflammation is not very tender, or when it lies deep, applications of the vegetable acid are often had recourse to with considerable advantage; and the most effectual form of using it, seems to be by way of cataplasm, made with the strongest vinegar and crumb of bread. In such cases, too, I have sometimes thought, that an alternate use of this remedy,

remedy, with the ſaturnine ſolution already recommended, has produced more beneficial effects, than are commonly obſerved from a continued courſe of any one of them.

At the ſame time that theſe applications are continued, bleeding with leeches, or cupping and ſcarifying as near as poſſible to the part affected, proves generally very uſeful, and, in no caſe of local inflammation, ſhould ever be omitted. In all ſuch caſes, the whole body, but more eſpecially the diſeaſed part, ſhould be preſerved as free as poſſible from every kind of motion; and, for the ſame reaſon, the neceſſity of a low cooling diet in every inflammatory diſorder, appears very obvious, as does alſo a total abſtinence from ſpirituous and fermented liquors.

In ſlight caſes of inflammation, a due perſeverance in the ſeveral remedies we have mentioned, will, in general, be found ſufficient for every purpoſe. But, when there is likewiſe a full, hard, or quick pulſe, with other ſymptons of fever, general bloodletting

letting becomes then always neceſſary; the quantity of blood taken away being always to be determined by the violence of the diſorder, and by the age and ſtrength of the patient. The uſe of gentle laxatives, too, together with cooling diaphoretic medicines, are always attended with very good effects.

Theſe evacuations being premiſed, the next object of importance is, to procure eaſe and quietneſs to the patient; which is often, in caſes of inflammation, of more real ſervice, than any other circumſtance whatever. The moſt effectual remedy for this purpoſe is opium; which, when pain and irritation are conſiderable, as in extenſive inflammations very frequently happens, ſhould never be omitted. In large wounds, eſpecially after amputations and other capital operations; in punctures of all kinds too; large doſes of opium are always attended with remarkably good effects. In all ſuch caſes, however, opium, in order to have a proper influence, ſhould, as we have obſerved, be adminiſtered in

full doſes: otherwiſe, inſtead of proving ſerviceable, it ſeems rather to have the contrary effect; a circumſtance which is, perhaps, the chief reaſon why opiates in general have been very unjuſtly condemned in every caſe of inflammation.

By a proper attention to the different circumſtances we have mentioned, in the courſe of three or four days, and ſometimes in a ſhorter ſpace of time, the reſolution of the tumor will in general begin to take place; at leaſt before the end of this period, it may for the moſt part be known how the diſorder is to terminate. If the heat, pain, and other attending ſymptoms, abate; and eſpecially if the tumor begins to decreaſe, without the occurrence of any gangrenous appearances; we may then be almoſt certain, that, by a continuance of the ſame plan, a total reſolution will in time be effected.

But, on the contrary, if all the different ſymptoms rather increaſe; and eſpecially, as was formerly remarked, if the tumor turns larger, and ſomewhat ſoft,

with

with an increase of throbbing pain; we may then with tolerable certainty conclude that suppuration will take place; and should, therefore, immediately desist from such applications as were judged proper while a cure was thought practicable by resolution; and endeavour to assist nature, as much as possible, in the formation of pus, or what is called *maturation* of the tumor.

For this reason, in every case of inflammation, the different evacuations, especially blood-letting, which may have been advisable while we were attempting to remove the swelling by discussion, should never be carried a greater length than may be merely necessary for *moderating* the several febrile symptoms. For, by reducing the system too much, if a suppuration afterwards takes place, its progress in that case becomes always much more slow and uncertain than it would have been had a due attention been paid to these evacuations; nor will the patient be afterwards so able to bear, especially if

it is confiderable, the difcharge that muft neceffarily enfue from opening the abfcefs.

Although it was remarked above, that if, in general, in the courfe of three or four days, there do not fome appearances of refolution occur, fuppuration will moft probably take place; and that, confequently, a change of treatment becomes neceffary: yet this, it muft be obferved, is only to be taken in a limited fenfe. For the time of defifting from one mode of treatment and commencing the other, muft always depend very much on the feat of the inflammation; fuch diforders being in fome parts much more apt to terminate in a fpeedy fuppuration than in others.

Thus, in the cellular membrane, as well as in every foft part, inflammatory tumors of all kinds terminate much more readily and quickly than when any of the tough membranous parts are affected. Hence, in the coats of the eye and of the tefticles, very violent inflammations often continue for many days, nay, even for weeks, without

either

either abating in the ſymptons, or ending in ſuppuration. In ſuch caſes, therefore, that go on even to a very conſiderable length, we need not be afraid of continuing the diſcutient applications for a much longer time than what, in general, would otherwiſe be proper; and ſhould never be deterred from uſing them, unleſs either an evident ſuppuration has taken place, or there appears from the violence of the ſymptoms a conſiderable riſk, either of gangrene, or of ſome incurable obſtruction: In which event, we muſt no doubt always endeavour to promote the ſuppuration of the tumor.

SECTION III.

Of SUPPURATION.

§ 1. *General Remarks on Suppuration.*

BY the term *Suppuration*, in general, is underſtood, that proceſs, by which the contents of tumors and ulcers are converted into a whitiſh, thick, opaque, ſomewhat fetid matter, termed *Pus*. This, for the moſt part, is effected by nature alone; but art undoubtedly can, in all ſuch caſes, afford her much aſſiſtance. Before going on, however, to conſider the treatment neceſſary for this purpoſe, it will not be improper to premiſe an examination of the different opinions that have been offered with reſpect to ſuppuration; and this the more eſpecially, as it will tend to elucidate many

many of the obſervations that will afterwards occur.

§ 2. *Of the Formation of Pus.*

By many authors, Pus has been imagined to conſiſt in a diſſolution of the blood-veſſels, nerves, muſcles, and other ſolids, in the fluids of the parts in which inflammatory tumors occur.

This is the opinion of Boerhaave *, Platner †, and many others.

Others, again, have ſuppoſed purulent matter to be formed in the blood; and that it is ſecreted, in its complete ſtate, into Abſceſſes, Wounds, and Ulcers.

The firſt of theſe opinions ſeems ſufficiently confuted from this conſideration, that very extenſive wounds and ulcers continue often for a great length of time, without being attended with any loſs of ſubſtance; which they neceſſarily always would be, if the ſeveral diſcharges afforded by them were found to conſiſt in a diſſolu-

 tion

* Aphoriſm, 387.

† V. Inſtitutiones Chirurgiæ, § 54, &c.

tion of the ſolids of the parts in which they are ſituated. Iſſues, too, afford inſtances of the ſame kind; by their yielding, for a number of years, even a daily diſcharge of pus, without producing any evident alteration whatever in the ſtate of the ſolids.

The other opinion has probably ariſen from abſceſſes being ſometimes obſerved to form ſuddenly, and without any evident previous inflammation; ſo that the matter contained in them has been ſuppoſed to be at once depoſited from the blood in a ſtate completely purulent.

Previous, however, to the formation of pus in any part, if due attention was given, ſome degree of inflammation, it is probable, would be always obſerved. But as inflammation, in many caſes, occurs in only a very ſlight degree, and without being attended with much pain, it may often, very readily, have proceeded to the ſtate of ſuppuration, without being ſooner obſerved by the patient: and this we know, in internal abſceſſes eſpecially, is not unfre-

frequently the cafe. We are told, indeed, of very quick tranflations of matter from one part of the body to another: but if fuch inftances do ever occur without the intervention of inflammation, a circumftance, however, much to be doubted; yet, ftill, it is no material objection to our argument, as fuch cafes can never be confidered in any other light, than as *particular*, and very *unufual*, exertions of the fyftem.

It may be remarked alfo, that if purulent matter frequently exifted in the blood, as it undoubtedly would do if the opinion now under confideration was well founded; in fome cafes, at leaft, it would furely have been liable to detection: but no matter of this kind has, it is imagined, ever yet been difcovered in it. Such pus, too, as is found in wounds and ulcers, would not at firft appear thin and ferous, as it always does, if depofited completely formed from the blood.

The moft probable opinion hitherto advanced with refpect to the formation of pus, is, that it is a change produced by

a certain degree of fermentation, upon the ferous part of the blood, after its fecretion into the cavities of ulcers and abfceffes; and this in confequence either of the natural heat of the part, or of heat artificially applied.

That it is the ferum only of blood, which is proper for the formation of pus, and that it is produced by the application of a certain degree of heat, was firft rendered very probable by an experiment related by Sir John Pringle in the appendix to his treatife on the difeafes of the army*; and it was afterwards fully confirmed by feveral others of the fame nature made by Mr Gaber, and related by him at full length in the fecond volume of the *Acta Taurinenfia*.

Sir John Pringle found, that pure ferum, kept for fome days in a furnace regulated to the human heat, after becoming turbid, dropped a white purulent fediment. The craffamentum of blood, in the fame fpace of time and degree of heat, changed from a deep crimfon to a dark livid

* Experiment xlv.

livid colour; ſo that, when any part of it was mixed with water, it appeared of a tawny hue. Serum, digeſted with a few red globules, and in the ſame circumſtances, was of the ſame colour.

Mr Gaber's experiments, as we have already remarked, all tend to elucidate and corroborate the ſame opinion, namely, That pure unmixed pus is formed only from ſerum. The addition of red globules to ſerum, and craſſamentum digeſted by itſelf, exhibited much the ſame appearances as thoſe quoted above from Sir John Pringle*. Fat, which is thought by many to be a principal ingredient in the compoſition of pus, was found by Mr Gaber, when expoſed to the above mentioned trial, to exhibit no appearances of that matter; nor were any of the fleſhy parts, when digeſted either with ſerum or water, convertible into it.

From all which, it may be concluded, that the addition of any of theſe articles to ſerum, inſtead of rendering it capable of producing good pus, has always the very

* V. Act. Taurin. vol. ii. page 87.

very contrary effect; and that it is pure ſerum alone from which that matter can be obtained.

It may here be remarked, once for all, that what is meant by *pure ſerum*, is not that finer halitus, which, in a healthy ſtate of the body, is conſtantly ſecreting into the different cavities, merely for the purpoſe of lubricating and keeping them moiſt, and which is again generally abſorbed; but it is a ſerous fluid of the ſame nature with that which ſeparates ſpontaneouſly from blood, upon that fluid being allowed to remain at reſt when diſcharged either from an artery or a vein; and in which, though there is never ſuppoſed to be any mixture of red globules, yet there is certainly always more or leſs of the coagulable lymph; ſome proportion of which ſeems abſolutely neceſſary for ſerum to be poſſeſſed of, to render it capable of producing pus.

The ſeveral effects we have already mentioned as being produced by digeſtion upon ſerum out of the body, will very readily occur,

occur, it is presumed, on the same causes being applied to it when collected in the cavities of ulcers and abscesses; and, from the result of the different experiments alluded to, it is probable, that, according as it is there deposited more or less free from mixtures of fat, red globules, and other substances, it will yield pus of a more pure or vitiated nature.

This account of the formation of pus is the most satisfactory, it is conceived, of any that has as yet been given; and this more especially, as it renders evident, as will afterwards appear, the operation of all the remedies commonly found most effectual in promoting suppuration.

§ 3. *Of the necessary Remedies for promoting Suppuration.*

When, for the reasons we have enumerated, it is judged most proper to use means for promoting the suppuration of an inflamed part, then all the remedies we have been recommending with a view to resolution, must immediately be laid aside.

No

No farther evacuations, as was obferved, are to be admitted; and if the patient has been much weakened, a full allowance in point of diet, and even a proportion of wine, will be neceffary.

For although a very violent degree of inflammation proves always unfavourable to fuppuration, by promoting the progrefs of Gangrene, as will afterwards be taken notice of; or as tending to propel into the cellular membrane, which in general is the feat of abfceffes, a quantity of red globules, together with the ferum of the blood, which alone ought to be extravafated for the formation of good pus: yet, in order to have a due quantity of ferum fecreted for the purpofe of fuppuration; and, at the fame time, to have its fermentation properly carried on, the different inflammatory fymptoms muft never be allowed to fubfide fuddenly; otherwife an abfcefs containing ill-digefted matter, as it is termed, will moft probably be produced.

Thus we find in fmall-pox, which are fo many fmall phlegmafiæ, that altho' blood-

letting

letting and other evacuations to a certain extent prove frequently uſeful, yet a proper ſuppuration never takes place if the patient has been much debilitated by any conſiderable diſcharge; and the ſame thing very certainly occurs, in ſimilar circumſtances, in abſceſſes of a larger ſize. The patient, therefore, ſhould neither be allowed to live ſo fully as might raiſe the inflammation too high, nor ſhould he be reduced in ſuch a manner, by evacuations and low diet, as to induce the contrary extreme.

Having in this manner endeavoured to procure a diſcharge into the cellular membrane, of ſerum proper for the formation of pus, the next circumſtance requiring attention is, that a due fermentation be excited, and preſerved in it, ſo that its progreſs towards perfect maturation, may go eaſily and regularly on.

This indication is chiefly effected by the uſe of ſuch applications as tend to preſerve a proper and conſtant degree of heat in the part: inſomuch, that it ſeems probably owing to a want of attention to this circum-

cumſtance, that the greateſt part of all the ſofter ſwellings do not come to ſuppuration; and that according to the degree of heat in which they are kept, whether from the proportion of inflammation by which they are at firſt produced, or from the natural heat of the part they are ſeated in, they form into tumors of melicerous, ſteatomatous, and other conſiſtences. For unleſs a due degree of heat be applied and continued, ſerum being merely extravaſated will never produce pus: hence in aſcites, and other dropſical diſorders, large quantities of it remain in this ſtate for a great length of time, without any ſuppuration taking place; and that merely from ſuch collections being produced without any inflammation at firſt, ſo that no aſſiſtance is afforded from any degree of *preternatural* heat; and the *natural* heat of ſuch parts, in which ſerous collections uſually occur, is ſeldom conſiderable enough to produce ſuch an effect.

The degree of heat beſt ſuited for promoting ſuppuration, is not perhaps eaſily to be determined; but the more conſider-

able

able it is, at leaſt to a certain extent, the more quickly, it is probable, pus will be formed.

This we find, indeed, from Mr Gaber's experiments, is ſo far the caſe *; and the obſervation is likewiſe confirmed by daily experience in every caſe of phlegmon; in which the tumor, cæteris paribus, always proceeds more quickly or ſlowly to ſuppuration, as it is ſeated nearer to, or at greater diſtance from, the heart. Hence, in any of the extremities, particularly in the legs, inflammatory diſorders proceed very ſlowly to ſuppuration; while thoſe of the trunk, and about the head, go on very quickly. Thus inflammation of the ears and throat frequently arrives at a thorough maturation, and even burſts of itſelf in the courſe of forty-eight hours from the firſt attack.

This conſideration, therefore, ſhould make us particularly attentive to the preſervation of a due degree of heat in every

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* When ſpeaking of pus being formed in, and ſubſiding from, ſerum digeſted in a degree of heat equal to that of the human body, Mr Gaber ſays, "Eo autem citius ſubſidebat quo calor erat major." *Loco citato.*

inflamed part intended to be brought to ſuppuration; but more eſpecially in ſituations very diſtant from the heart, where artificial heat is moſt wanted, and where, by a proper application of it, almoſt every tumor, though ſituated on the extremities, might probably be made to ſuppurate in the ſame ſpace of time with thoſe in the ears and other parts juſt now taken notice of.

I am not only convinced, by experience, of what is here aſſerted reſpecting the very ſingular advantages to be obtained from a due attention to this matter; but alſo, from a courſe of experiments I was engaged in ſome years ago upon the ſame ſubject. But as theſe turned out almoſt exactly ſimilar to thoſe related by Mr Gaber, no exact account was preſerved of the reſult of them: this, however, is particularly remembered, that in a heat equal to 100° of Farenheit's thermometer, the depoſition of matter from ſerum took place in little more than half the time that was requiſite for the ſame effect at even eighty degrees.

It was the proſecution of theſe experiments

ments that first suggested to me the probability of the great advantages to be derived from the preservation of a due degree of heat in inflamed parts; and I have accordingly, on many occasions since that time, found the treatment of such cases go on much more easily than otherwise I should either have expected or have been able to account for.

Warm fomentations and cataplasms are the means commonly employed for the application of heat to an inflamed part; and when these are regularly and frequently renewed, nothing, it is probable, can more effectually answer the purpose. But, in the ordinary manner in which they are applied, as the cataplasms are renewed only once, or at most twice, in the day, they must always, it is imagined, do more harm than good. For as soon as the degree of heat they were at first possessed of is dissipated, the moisture kept up by them, with the consequent evaporation that ensues, must always render the part a great deal colder than if it had been merely

wrapped in flannel, without the ufe of any fuch application.

In order to receive all the advantages of fuch remedies, the part affected fhould be well fomented with flannels preffed out of any warm emollient decoction, applied as warm as the patient can eafily bear them, continued at leaft half an hour at once, and renewed four or five times a-day.

Immediately after the fomentation is over, a large emollient poultice fhould likewife be applied warm, and renewed every fecond or third hour at fartheft. Of all the forms recommended for emollient cataplafms, a common milk-and-bread poultice, with a proportion of butter or oil, is perhaps the moft eligible ; as it not only poffeffes all the advantages of the others, but can at all times be more eafily obtained.

Roafted onions, garlic, and other acrid vegetables, are frequently made ufe of as additions to maturating cataplafms : When there is not a due degree of inflammation in the tumor, and when it appears probable

bable that the ſuppuration would be quickened by having the inflammatory ſymptoms ſomewhat increaſed, the addition of ſuch ſubſtances may then be of ſervice; but when ſtimulants are neceſſary in ſuch caſes, a ſmall proportion of ſtrained galbanum, or of any of the warm gums, diſſolved in the yolk of an egg, and added to the poultices, is not only a more elegant, but a more certain form of applying them. In ſome caſes, too, the ſame intention may be more certainly accompliſhed, by combining a ſmall quantity of cantharides with any application intended to be employed.

Whenever the inflammation, however, takes place to a proper degree, ſuch ſtimulating ſubſtances can never be neceſſary; and from the different obſervations we have already made, there is reaſon to think, that in many inſtances they might even do miſchief.

In ſuch tumors as, from their being attended with little or no inflammation, are commonly ſaid to be of a cold nature, as they are generally indolent, and proceed

very ſlowly to ſuppuration, plaſters compoſed of the warm gums are often employed with conſiderable advantage: in ſuch caſes, they are not only of uſe by the ſtimulus and irritation which they excite, but by the heat which they tend to preſerve in the part. They become particularly neceſſary, when the patient, by being obliged to go abroad, cannot have cataplaſms frequently enough renewed, or ſo conveniently applied: but when ſome ſuch objection does not occur, the latter, for very obvious reaſons, ſhould always be preferred.

Dry cupping, as it is termed, that is, cupping without the uſe of the ſcarificator, upon, or as near as poſſible to, the part affected, is frequently uſed with advantage, for promoting the ſuppuration of tumors: it is only, however, in ſuch as theſe laſt mentioned, where there ſeems to be a deficiency of inflammation, that it can ever either be neceſſary or uſeful; but in all tumors of an indolent nature, and where there is ſtill ſome probability of a ſuppuration

ſuppuration being effected, I have ſeldom obſerved ſuch good effects from any other remedy.

Theſe different applications, under the reſtrictions we have taken notice of, being continued for a longer or ſhorter time, according to the ſize of the tumor, its ſituation and other circumſtances, a thorough ſuppuration may, in general, at laſt be expected.

Matter being fully formed in a tumor, is known by the remiſſion of all the ſymptoms which takes place: the dolor pulſatilis, that before was frequent, now goes off; and the patient complains of a more dull, conſtant, heavy pain: the tumor points at ſome particular part, generally near to its middle; where, if the matter is not encyſted, or deep-ſeated, a whitiſh yellow appearance is obſerved, inſtead of a deep red that formerly took place; and a fluctuation of a fluid underneath, is, upon preſſure, very evidently diſcovered. Sometimes, indeed, when an abſceſs is thickly covered with muſcular and other parts;

and when, from concurring circumſtances, there can be little doubt of there being even a very conſiderable collection of matter, yet the fluctuation cannot be readily diſtinguiſhed: but it does not often happen, that matter is ſo very deeply lodged as not to be diſcovered upon proper examination.

This, however, is a circumſtance of much importance in practice; and deſerves, it may be remarked, more attention than is commonly given to it. In no part of the ſurgeon's employment, is experience in ſimilar caſes of more uſe to him than in the preſent; and however ſimple it may appear, yet nothing, it is certain, more readily diſtinguiſhes a man of obſervation and extenſive practice, than his being able eaſily to detect collections of deep-ſeated matter: whilſt nothing, on the contrary, ſo materially affects the character of a ſurgeon, as his having, in ſuch caſes, given an inaccurate or unjuſt prognoſis; for the event, in diſorders of this nature,

nature, comes generally at laſt to be clearly demonſtrated to all concerned.

Together with the ſeveral local ſymptoms of the exiſtence of pus, already enumerated, the frequent ſhiverings that patients are liable to on its firſt formation, may likewiſe be mentioned: theſe, however, ſeldom occur ſo as to be diſtinctly obſerved, unleſs the collection is conſiderable, or ſeated internally in ſome of the viſcera. But, in every large abſceſs, they are almoſt conſtantly met with; and, when they appear along with other ſymptoms of ſuppuration, they tend always to aſcertain the real nature of the diſorder.

§ 4. *Of Abſceſſes, and of the proper Period for opening them.*

In the treatment of abſceſſes, it is a general rule, not to diſcharge their contents till a thorough ſuppuration has taken place: for, when laid open long before that period, and while any conſiderable hardneſs remains, they commonly prove troubleſome, and ſeldom heal kindly.

In ſome caſes, however, it is neceſſary to deviate from this general rule, and to open them a good deal ſooner; particularly in all ſuch critical abſceſſes as occur in malignant fevers. In the plague, too, we are commonly adviſed to open ſuch tumors as ſoon as they are tolerably advanced, and not to wait till they are fully maturated; for, in ſuch inſtances, it is found, that the patient receives more benefit from an early diſcharge of matter, than he can ſuffer harm from having any ſwelling of this nature ſomewhat prematurely laid open.

Abſceſſes, too, ſituated on any of the joints, or upon either of the large cavities of the breaſt and abdomen, and more eſpecially when they ſeem to run deep, ſhould always be opened as ſoon as the leaſt fluctuation of matter is diſcovered. For, when the reſiſtance is on every ſide equal, they will juſt as readily point internally as outwardly; and the conſequence of a large abſceſs burſting into either of the large cavities eſpecially, is well known

most frequently to prove fatal: An instance of which, in the following case, I had some time ago an opportunity of observing, which, with very little attention, might have been prevented.

A surgeon of eminence, and of very extensive practice, was applied to by a young healthy-looking man, with a large abscess upon the left side of his chest. A fluctuation of a fluid was, upon pressure, very evidently discovered; and it was agreed, by other two practitioners who were present, that an opening should be made to give vent to the matter. But the operator being much engaged in business, could not fix on an earlier period for doing it than the third day from the patient's first applying to him: unluckily, however, the patient died suddenly in his bed, the night before the abscess was to have been opened.

On examining the body, the tumor was found to have disappeared entirely, without any external opening being observed; and, on laying open the thorax, the

the matter was obſerved to have burſt inwardly upon the lungs, and hence had produced immediate ſuffocation.

In all other caſes, however, except in thoſe alluded to, the rule in opening abſceſſes is, as was already remarked, to allow a thorough ſuppuration to take place, before any vent whatever be given to the matter; and it being then determined to lay the collection open, the next queſtion that occurs, is with reſpect to the manner of doing it.

§ 5. *Of the different Methods of opening Abſceſſes.*

Two different methods of opening abſceſſes have been recommended by authors, namely, by Cauſtic and Inciſion. To the former, however, there are many objections. It is not attended with any ſuperior advantage to a ſimple inciſion; upon a tender inflamed part, it gives much more pain; it is more ſlow in its effects; and the ſurgeon never has the command of it ſo entirely as to deſtroy thoſe parts he

would incline, and no more; for all the different kinds of caustic, notwithstanding the greatest attention, will sometimes spread farther, and penetrate deeper, than was either wished for or intended. Of this I, some years ago, saw a very remarkable instance; and in a situation, too, in which an accident of this nature would not be thought likely to occur.

Caustic was applied to the anterior part of the scrotum, with a view to produce a radical cure, in a case of hydrocele: but whether there had been very little water collected, or whether a preternatural adhesion of the testis to the tunica vaginalis had, at this part, been produced, is uncertain; but the caustic penetrated to the body of the testicle, and gave the patient, as may readily be imagined, a great deal of very excruciating pain. It did, to be sure, accomplish a cure: but the danger attending such an accident, although it probably might not frequently occur, is, I should imagine, a very strong objection to the use of caustic in all such cases; and it is now

indeed very generally, I believe, laid aſide, the preference being juſtly given to the ſcalpel.

When tumors are not very large, they are commonly opened by a longitudinal inciſion, with a lancet or ſcalpel. This ſhould be ſo directed as to terminate at the moſt depending part of the ſwelling, and ſhould be of ſuch a ſize as may ſeem ſufficient for giving a free diſcharge to the matter; about two thirds of the length of the tumor is, in ſuch caſes, generally reckoned extenſive enough.

When abſceſſes, however, are of any conſiderable extent, they are commonly laid open through their whole length; and when the teguments have been greatly ſtretched, it is adviſed by many to take part of them away altogether. But this is a practice which ſeldom, or perhaps never, ought to be followed; as there are ſcarcely any abſceſſes ſo large as to deſtroy entirely the contractile power of the integuments; and while this remains in any degree, there are ſtill hopes of the parts again

again recovering their former dimenſions. It is ſurpriſing indeed to what extent this obſervation applies. In many inſtances, the ſkin has been known to recover its tone entirely, after having been for a time completely deprived of it.

Theſe are the ſeveral modes of opening abſceſſes with the ſcalpel. There are different inconveniences, however, found to attend all of them; and particularly, that as ſoon as an inciſion is made into a tumor, the whole contained matter is diſcharged ſuddenly and at once: Whereby, when the collection is conſiderable, faintings and other diſagreeable ſymptoms are frequently induced; and what, in all large ſwellings eſpecially, is conſtantly attended with bad effects, a free admiſſion of air is thereby given to a great extent of ulcerated ſurface.

The bad effects of air on every variety of ſore, is well known to every practitioner; but its pernicious influence, on a newly opened abſceſs, is often really aſtoniſhing. It firſt occaſions a total change in the na-

ture of the matter, from perhaps a very laudable pus to a thin ill-digefted fanies; and afterwards brings on a quicknefs of pulfe, debilitating fweats, and other fymptoms of hectic fever, which, for the moft part, when the collection has been confiderable, either carries the patient off in a fhort time, or terminates in a confirmed phthifis, which fooner or later proves fatal.

This I have, in a great many inftances, had occafion to obferve; and that, in fuch cafes, it is the admiffion of air alone which produces all thefe bad fymptoms, is rendered highly probable from this circumftance, that of a great number of patients who have laboured under fuch diforders, many have remained for a very confiderable time, with large abfceffes fully formed, and without having any one fymptom of hectic whatever: but when they have ever exceeded an ordinary or moderate fize, I have feldom known an inftance of their being opened by a large incifion, without almoft every hectic fymptom taking place; and this generally in lefs than forty-eight hours

hours from the time of their being laid open.

In what manner the admiſſion of air to an abſceſs operates in producing ſuch a powerful and ſudden effect, is perhaps difficult to determine. The irritation produced by it, on a large extent of ulcerated ſurface, may probably be one reaſon :—By acting as a ſtimulus on the extremities of the different abſorbents opening into the ſore, it may occaſion a larger abſorption of matter than would otherwiſe take place ;—and it may likewiſe, by rendering the matter more putrid than before, give even to the ſame quantity abſorbed greater activity in producing the different ſymptoms of hectic.

That this conjecture is well founded, with reſpect to an increaſe of putreſcency being the principal cauſe of the bad effects produced by the admiſſion of air to ſores, is, from different circumſtances, at leaſt exceedingly probable. For, in the firſt place, altho' the diſcharge from abſceſſes is commonly mild, and free from any diſagreeable fetor

on their being newly laid open; it almoſt conſtantly becomes thin, acrid, and more fetid in the courſe of a few dreſſings, which is a certain proof of a greater degree of putreſcency having then taken place. On this principle, too, we may account for the operation of many of the remedies commonly employed in the treatment of ſores; and more eſpecially of thoſe powerful antiſeptics, fixed air and Peruvian bark.

We know from experiment likewiſe, that other ſubſtances, as well as that part of the blood from which pus is formed, is rendered putrid, and more quickly ſo, by the admiſſion of air, than otherwiſe, while in the ſame degree of heat, they probably ever would be *.

From theſe conſiderations, therefore, the greateſt caution appears to be neceſſary, for preventing, as much as poſſible, the admiſſion of air to the internal ſurface of every collection of matter; and this, we may

* *Vide* Sir John Pringle's and Mr Gaber's experiments on this ſubject. *Loc. cit.*

may remark, is very eaſily and effectually done, by opening collections of this kind by means of a ſeton or cord, inſtead of having recourſe either to cauſtic or the ſcalpel.

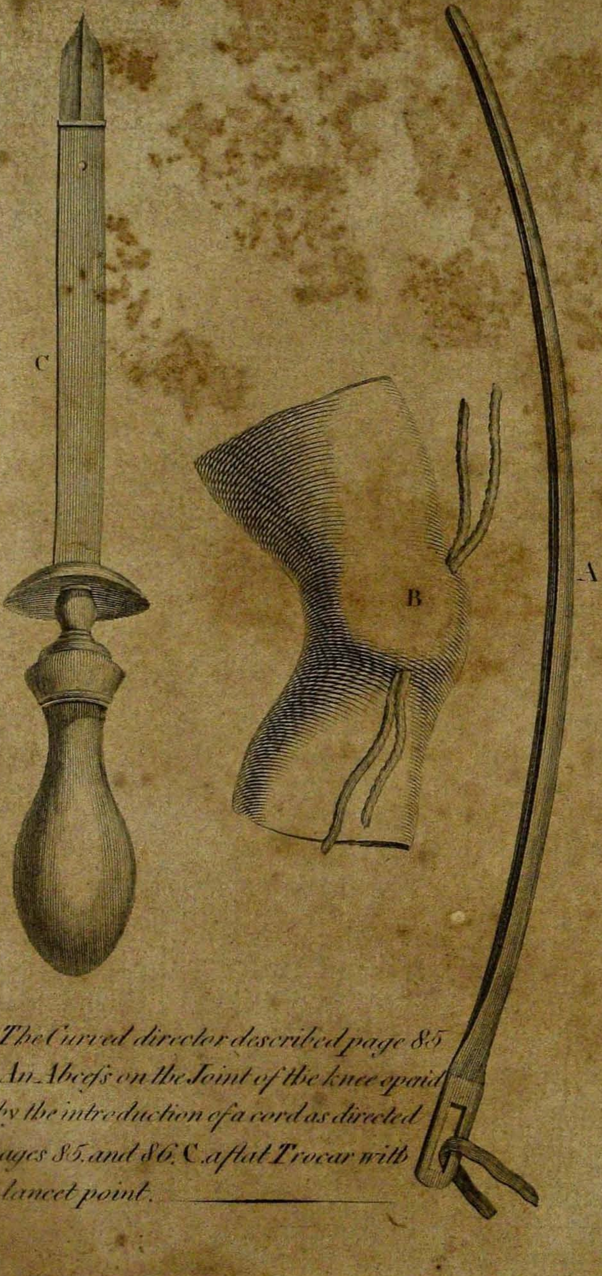
This method of diſcharging the contents of tumors, by the introduction of a cord, is attended with every advantage of that by inciſion: it, moreover, empties the ſwellings, of whatever ſize they may be, not ſuddenly, but very gradually; it effectually prevents a free admiſſion of air; it is not commonly attended with near ſo much pain and inflammation; nor is the cicatrix occaſioned by it ever inconvenient, or unſeemly, which it frequently is after a large inciſion.

In the Royal Infirmary of this place, large abſceſſes, as well as thoſe of a ſmaller ſize, uſed formerly to be opened in the uſual manner, by extenſive inciſions: the conſequences were ſuch as have been already related; many of the patients were thrown into ſuch obſtinate hectic fevers as they never recovered from; and others, though they did get better at the time, were com-

monly ſo much debilitated as to be very liable to be ſeized with other diſorders, from which they ſeldom entirely recovered.

This was the moſt frequent reſult of our treatment of large abſceſſes by inciſions; and ſimilar conſequences will ſtill be found to prevail where this practice is continued: but ſince the ſeton came to be generally uſed here, few or no ſuch diſagreeable circumſtances have occurred. Many of the largeſt tumors have been opened in this manner: and when the patients are otherwiſe in good health, they very commonly do well; and with this additional advantage, that a cure is frequently obtained in little more than half the time uſually found neceſſary after a large inciſion has been employed.

The opening of abſceſſes by the introduction of a ſeton, has been mentioned by different authors, and in ſmall collections of matter has been frequently practiſed; but never ſo generally, I imagine, as it has been here within theſe laſt twenty years, both in the hoſpital



A *The Curved director described page 85*
B *An Abceſs on the Joint of the knee opend by the introduction of a cord as directed pages 85. and 86.* C *a flat Trocar with a lancet point.*

hofpital and in private. And in juftice to Mr James Rae, furgeon in this place, it muft be acknowledged, that we are chiefly indebted for it to his recommendation, he having firft propofed the general ufe of fetons in fuch cafes, at the fame time that he invented a fet of inftruments, by which they are eafily inferted in almoft all abfceffes, however deep-feated, and among whatever parts they may run; and this too without any rifk of wounding the large blood-veffels, nerves, or tendons, in the neighbourhood.

Several fets of thefe inftruments, for abfceffes of different fizes, are kept in the Infirmary here: they fulfil the intention, as was already obferved, exceedingly well, and are a very ingenious contrivance. But as the curved director we have delineated in the plate, anfwers the purpofe equally well, and is in itfelf fully more fimple, it will for that reafon be in general found more convenient. It is ufed in the following manner.

An opening fufficiently large for the cord, being made with a lancet in the fu-

perior part of the abfcefs, the director, threaded with a cord of candle-wick cotton, or of foft filk, proportioned in thicknefs to the fize of the tumor, is then to be introduced, and its point to be pufhed downwards till it is felt externally, exactly oppofite to the moft depending part of the fwelling. The director being kept firm by an affiftant, an incifion is to be made with a fcalpel upon its under extremity, of a length fomewhat more confiderable than the opening firft made by the lancet: for when this circumftance is not attended to, and when of courfe the under orifice is made no larger than the upper, the matter is very apt to tranfude above; which always proves inconvenient to the patient, but which in this manner is very eafily avoided. The director is now to be drawn downwards, with fo much of the cord as to leave two or three inches of it hanging out at the lower orifice. In order to caufe the cotton run eafily on its firft introduction, as likewife at the fubfequent dreffings, as much of it as is to be ufed at the

time

time ſhould be well rubbed over with any emollient ointment.

In twenty-four hours or thereby from its introduction, the cord may be moved, and ſo much of it ſhould be drawn downwards as to admit of all that part of it being cut off which had been lodged in the abſceſs; and in this manner the ſame quantity of it is to be moved daily, as long as from circumſtances it may appear to be neceſſary.

A regular and ſlow diſcharge of the matter is thus produced; the ſides of the abſceſs are thereby allowed to contract gradually; and a ſlight inflammation being kept upon their ſurfaces by the friction of the cord, they are from that circumſtance brought to unite and to adhere firmly to one another, much ſooner than they otherwiſe would do. As the diſcharge diminiſhes in quantity, ſo the ſize of the ſeton ſhould alſo be gradually leſſened; and it is eaſily done, by withdrawing a thread of the cotton once in two or three days. At laſt, when there is little more matter afforded

than ought to be naturally produced by the irritation of the cord, it may be altogether taken out; and gentle preſſure being continued upon the parts by a roller for a few days longer, a pretty certain and laſting cure may generally be expected.

In the introduction of the ſeton it was expreſsly ſaid, that it ought to be made from above downwards; that is, by an opening made in the ſuperior part of the abſceſs. The reaſon for ſuch a reſtriction is this, that when the firſt opening is made in the depending part of a ſwelling, a conſiderable quantity of matter immediately runs out, which, as it cauſes the ſides of the upper part of it to collapſe, renders it more difficult to introduce the director through the whole courſe of the abſceſs, than when done in the manner directed: when properly executed, the bottom as well as every other part of the tumor is kept diſtended to the laſt, very little of the matter eſcaping by the upper orifice. By being introduced in this way, too, the quantity of cord that ſtill remains to be

uſed

ufed is kept clean and dry; which it cannot poffibly be when inferted in the contrary manner.

To fome thefe circumftances may perhaps appear too trifling to deferve fuch particular notice; but too much, it is imagined, can never be faid in rendering the account of a beneficial practice clear and evident.

All that has hitherto been faid with refpect to the ufe of fetons in cafes of abfcefs from recent inflammation, applies with equal propriety, it muft be underftood, to tumors of very long continuance, when the matter contained in them is either of a purulent nature, or of a confiftence not much thicker than pus. All encyfted tumors of the thinner melicerous kind, are as fuccefsfully treated in this manner, as recent abfceffes: fo that the practice is by no means confined to one fet of tumors only; and it may even probably be employed in others, for which it has not as yet been advifed.

It anfwers particularly well in all collections

tions of matter in glandular parts, where the admiſſion of air is attended with even worſe conſequences than in other parts. Thus, when it is thought adviſeable to open ſcrophulous ſoft ſwellings, they commonly heal much ſooner and eaſier with the ſeton than by a large inciſion. Venereal buboes, too, when fully maturated, and when the teguments are not become very thin by being long overſtretched, heal much more readily and kindly by this management than with any other.

From the practice anſwering ſo remarkably well in every caſe of abſceſs, it was at laſt, a good many years ago, employed byMr Rae in the Infirmary here, in the hydrocele, or collection of water in the *tunica vaginalis teſtis*; and it has ſince that time been frequently uſed in ſimilar caſes. I muſt acknowledge, however, that from the ſeveral inſtances I have yet ſeen of its effects in this diſorder, I am not altogether certain whether it ought to be preferred to the ſimple inciſion, or not. For, though I never knew an inſtance, when the operation

ration was properly done, of its failing to produce a radical cure; yet the friction of the cord upon the body of the testis, to which in this operation it is immediately applied, generally occasions a very high degree of inflammation; fully more, I have often thought, than is commonly observed from the simple incision: Farther experience, however, is necessary, in order to determine a question of such importance.

This was my opinion in the year 1778, when the first edition of this book was published. Since that period I have had no other reason to alter it, than to be more and more convinced that the treatment of hydrocele by seton, is productive of more pain than any other method of cure now in use; while, at the same time, it is not more certain in its effects than the simple incision. And, accordingly, although I could not at that time speak with precision of the merits of this operation, I am now satisfied that the cure by incision ought in every instance to be preferred.

But when, in such cases, it is resolved

to employ the ſeton, the method of introducing it, as we have directed for abſceſſes, with a curved director of a proper ſize, ſeems more ſimple, though in other reſpects perhaps not better, than that lately recommended by Mr Pott, which being with the help of a common trocar, appears to be neither ſafe nor eaſily performed. For inſtances have occurred, even with very able ſurgeons now living, where, in caſes of hydrocele, the body of the teſtis has been wounded by puncturing with that inſtrument; which, from its round form, is introduced with much difficulty. Whenever it is agreed upon, however, to make uſe of a trocar, either with a view to a palliative or a radical cure, one with a lancet-point, as is repreſented in the plate, anſwers the purpoſe with much more eaſe than that in common uſe. A large inſtrument of this kind was made, by my direction, ſome years ago, for the paracenteſis of the abdomen; and, as it anſwered the purpoſe exceedingly well, it has ſince been

been often uſed, and is now very generally employed *.

SECTION IV.

Of MORTIFICATION.

§ 1. *General Remarks on Gangrene.*

THE termination of inflammation, both by Reſolution and Suppuration, having now been fully treated of, we come next in order to the conſideration of Gangrene or Mortification.

The ſeveral appearances of Gangrene having been already particularly enumerated, it is not now neceſſary to make a full recapitulation of them. Only, it may be remarked,

* Mr Thomas Hay, ſurgeon in this place, ſome years ago invented a curved director, ſuch as is here recommended, which has ſince that time been uſed for the introduction of a cord in caſes of hydrocele, and is found to anſwer the purpoſe very conveniently.

marked, that a thorough mortification, or the laſt ſtage of gangrene, is known only by the diſeaſed part becoming totally black, by its loſing all pain and ſenſation, at the ſame time that it emits a conſiderable fetor: at laſt, too, a ſoftneſs or flaccidity in general takes place, together with an entire diſſolution of the different parts of which the organ is compoſed.

I have ſaid only in general: for although the ſeveral appearances, as above related, do moſt frequently occur; yet there are ſome inſtances of what is called Dry Gangrene, in which the parts continue totally mortified for a great length of time, without either turning very flaccid, or running into diſſolution.

Such caſes, however, never occur from inflammation. They happen commonly from the flow of blood to ſuch parts being put a ſtop to by compreſſion of one kind or another, as tumors, ligatures, or other ſimilar cauſes, obſtructing the principal arteries that uſed to ſupply them; which, when the ſtoppage of the circulation is complete,

complete, always occaſion a very ſlow mortification; and as the parts, in ſuch inſtances, are no longer ſupplied with freſh quantities of fluids, while a conſiderable exhalation muſt ſtill be going on, ſuch a degree of humidity cannot therefore poſſibly occur, as in other caſes of gangrene. Thus, that ſpecies of the diſorder has, perhaps with propriety enough, been termed the Dry Gangrene.

There are other varieties of the diſeaſe enumerated by authors, as the White Gangrene *; in which the parts ſuppoſed to be mortified do not turn black, but retain nearly their former colour, &c. Whether ſuch complaints, however, can with propriety be denominated Gangrene or not, may probably be doubted: but as it is chiefly that ſpecies of the diſorder which ſucceeds to inflammation, that is now particularly to be treated of, and in which no ſuch varieties are ever obſerved, it is not here neceſſary to carry the inquiry farther; and eſpecially as nearly the whole mode

* Queſnay, Traité de la Gangrene, p. 337.

mode of treatment, to be afterwards recommended, applies, with almoſt equal propriety, to every variety of the diſeaſe.

Of all the inflammatory complaints to which the ſyſtem is liable, that ſpecies of the diſorder termed Eryſipelas, is obſerved moſt frequently to terminate in gangrene; and whenever phlegmon is in any degree conjoined with an eryſipelatous affection, which it not unfrequently is, it ſeems thereby to acquire the ſame tendency, by being, as was already remarked, more difficult to bring to ſuppuration than the true phlegmon, and by going on more frequently to the mortified ſtate.

THE beſt and moſt effectual means of preventing mortification in every caſe of inflammation, is to endeavour either to obtain its reſolution or ſuppuration; the different remedies for both which purpoſes have already been fully pointed out. But, in ſome caſes, the diſorder is far advanced, and gangrene is already begun, before the ſurgeon's aſſiſtance is called in; and, in others,

others, the inflammation runs ſo high, and proceeds ſo quickly, that gangrene occurs notwithſtanding the uſe of all the remedies that can be applied: In ſome inſtances ſo quickly even, that the inflammatory ſtate is ſcarcely thoroughly diſcerned till mortification appears to be beginning.

§ 2. *Obſervations on Carbuncles as a Species of Gangrene.*

THIS rapid progreſs of the diſorder occurs moſt frequently in caſes of Carbuncles, what by the French are termed Charbons; in which the inflammation proceeds ſo quickly to mortification, that there is ſeldom any evident tumor raiſed, the parts turning black, and ending in real gangrene, often in the courſe of twenty-four hours from the firſt attack.

The quick progreſs uſually made by this diſorder, renders it the worſt and perhaps the moſt dangerous ſpecies of inflammation. For when it occurs internally upon any of the viſcera, as it ſometimes does, it muſt, probably in every inſtance, prove fatal, as no remedies with which we are

acquainted can ever prevent its progreſs towards the laſt ſtage of mortification: Externally, indeed, when they are not very extenſive, and not ſeated on any of the large blood-veſſels and nerves, carbuncles are frequently got the better of; that is, with the loſs of the affected parts.

As carbuncles commonly appear without any evident external cauſe, they are in general moſt probably owing to a ſcorbutic or putrid ſtate of the fluids; for, when putreſcency prevails in the ſyſtem, every inflammatory affection that occurs, proceeds much more readily to the mortified ſtate than inflammation in other circumſtances ever does.

This opinion with reſpect to the cauſe of carbuncles depending upon a putreſcent ſtate of the ſyſtem, is particularly confirmed by their occurring moſt frequently as a ſymptom in peſtilential diſorders; for, although they are ſometimes met with even in this country, where the plague is now never known, yet the real car-

buncle

buncle is far from being a common occurrence.

In ſuch inſtances gangrene is very eaſily accounted for, from the prediſpoſition in the ſyſtem to putrid diſorders: but in what manner is it produced by inflammation in other caſes, and where no ſuch diſpoſition can be ſuppoſed to take place? This we ſhall proceed to inveſtigate.

§ 3. *Of the Cauſes of Gangrene.*

An increaſed action in the veſſels of a part, we have already endeavoured to eſtabliſh as the immediate or proximate cauſe of inflammation; and the ſame cauſe, it is preſumed, will, in many inſtances, account for the riſe of mortification.

One evident effect of an increaſed action in the veſſels, in every caſe of inflammation, is a propulſion, into the ſmaller capillaries, of a greater quantity of the more denſe parts of the blood than naturally they were intended to tranſmit. When this is not conſiderable, a due circulation is frequently reſtored in a ſhort time, with-

out any bad consequence whatever; nay, when an actual extravasation of the serous part of the blood into the cellular membrane has taken place in some degree, the fluid is often reabsorbed, and a cure is thus obtained by resolution. But when such extravasation from a farther increase of this undue action of the vessels has taken place to a still greater degree, suppuration is then most frequently the consequence.

When, again, a strong exciting cause is applied to a constitution already predisposed to inflammatory complaints; as a lacerated wound, for instance, in a young healthy man; the violent irritation, and consequent increased action of the vessels that ensue, occasion the red particles of the blood to be likewise poured forth together with the serum. In this manner a collection of an extravasated fluid is produced; and the great degree of preternatural heat kept up by the disorder, very readily excites in it some degree of fermentation; which, from the nature of the matter it has to act upon, not being able to ef-

fect

fect a ſuppuration *, and the craſſamentum of blood being particularly liable to run into the putrid fermentation †, mortification, which we may here conſider as the ultimate ſtage of putrefaction, comes in courſe to be produced.

The diſorder being, in this manner, once raiſed in a part, the progreſs which it afterwards uſually makes, does not appear very difficult to account for. The putreſcent particles of the tumor, by inſinuating themſelves into the cellular membrane of the neighbouring ſound parts, as in this manner they extend the contagion, ſo they very ſoon bring theſe likewiſe to ſuffer. In this way, the mortification continues to advance; till meeting with a part,

* Mr Gaber, when ſpeaking of his experiments upon the craſſamentum of blood, ſays, that he could never obtain genuine pus from it; and farther adds, "Vero ſimilius ergo *ſanguinem* cæteris puris principiis admixtum, ipſum magis *fœtidum* et deterius reddere," &c. *Loco citato*, p. 87.

† For ſome animal-ſubſtances, ſuch as urine, the bile, and the craſſamentum of blood, *ſoon* putrefy. Sir John Pringle's Experiments, Appendix, p. vi.

perhaps, naturally more irritable than the others, or which by this time has been rendered ſo by the different remedies to be pointed out, a certain degree of new inflammation comes to be eaſily induced, in conſequence of the ſtimulus which putrid particles muſt always occaſion: This, as it renders the parts more firm and compact, makes them leſs eaſily penetrable by the putreſcent contagion; and a ſuppuration of courſe enſuing as a conſequence of the preceding inflammation, a complete ſeparation of the diſeaſed from the ſound parts, is thereby, in general, very ſoon effected.

At leaſt, that ſuch an inflammation, with a conſequent ſuppuration, does, in caſes of real gangrene, always happen before a ſeparation of the diſeaſed parts takes place, is a fact well known to every practitioner; and, that the cauſe aſſigned for theſe appearances is the true one, I think, from the different circumſtances taken notice of, is at leaſt exceedingly probable.

Thus the local ſymptoms of gangrene appear

appear to be pretty certainly accounted for: and the ſinking of the pulſe, which, in extenſive mortifications, always occurs, and which is by much the moſt remarkable change that takes place in the general ſyſtem, is a very natural conſequence of that debility, which ſeems to be a conſtant and neceſſary attendant on a putreſcent ſtate of the fluids, from whatever cauſe this may have ariſen; a circumſtance we have particularly demonſtrated in putrid fever, and in ſcurvy, where a languid pulſe and general debility are always conſidered as the moſt characteriſtic ſymptoms.

§ 4. *Of the Prognoſis in Gangrene.*

In every caſe of gangrene, the prognoſis ſhould at firſt be exceedingly doubtful; for even in the ſlighteſt affections of this nature, the ſyſtem, from the contagion it receives by the abſorption of putrid matter, is, in ſome inſtances, ſo much affected, that the patients are ſuddenly car-

ried off, without appearing previously to have been in any imminent danger.

In such cases, however, as succeed to inflammation from an external cause, where the gangrene is neither very deep nor extensive, and where it does not seem to spread, the prognostic ought to be much more favourable than in those which arise suddenly from an internal cause, where the mortification runs deep, and more especially when it is still continuing to advance; in which circumstance the greatest danger is always to be apprehended.

Indeed, no person whatever, with any considerable mortification, even from an external cause, can be said to be free from risk, till the diseased parts are not only separated, but even entirely cast off from the sound; the poison of putrid miasmata being of such a penetrating and destructive nature, that many instances have occurred of patients being very quickly carried off, seemingly from this circumstance alone, long after the progress of the mortification

tification had ceaſed. In ſuch caſes we preſume, that the putreſcent miaſmata prove deſtructive, chiefly by their deleterious influence on the nervous ſyſtem. In long continued caſes of mortification, the general maſs of fluids may ſometimes ſuffer merely from the abſorption of putrid effluvia; but as patients, labouring under mortification, frequently die ſuddenly, and before any putreſcency has appeared in the ſyſtem at large, we conclude that this moſt probably happens from ſome effect produced either upon the nerves, or on the ſenſorium, from whence they originate. But in whatever manner the putrid fomes of a mortified ſpot may operate, their influence is frequently found to be ſo pernicious as to warrant the concluſion we have formed; namely, that no perſon, labouring under a real mortification, can be ſaid to be free from danger till all the diſeaſed parts are entirely removed.

§ 5. *Of the neceſſary Remedies in Gangrene.*

In the treatment of Gangrene, when no blood-letting or other evacuation has been preſcribed during the preceding inflammatory ſtate of the diſorder; and when the general ſymptoms of inflammation, particularly a quick, full, or hard pulſe, ſtill continue violent; and eſpecially when the patient is young and plethoric; it then becomes abſolutely neceſſary, even altho' mortification may have commenced, to empty the veſſels a little by one general blood-letting; which, by moderating the fever, and abating the univerſal heat, proves often a ſure means of preventing the progreſs of the diſorder: and, in this view, blood-letting, in ſuch caſes, may, in reality, be conſidered as an antiſeptic; and it does often, indeed, in this particular ſituation of mortification, prove more powerfully ſo, than all the different articles in general enumerated as ſuch.

For the ſame reaſons that blood-letting is recommended, gentle laxatives, and a free

free uſe of acidulated cooling drink, become neceſſary. But as, in the farther progreſs and continuance of mortification, the patient is very apt to ſink, and the pulſe to turn languid, every evacuation, eſpecially of blood, ſhould be directed with much caution, never to a greater degree than may ſeem to be abſolutely neceſſary for *moderating ſuch ſymptoms* as at the time appear to be too violent.

When, again, as is moſt frequently the caſe when the diſorder has made any conſiderable progreſs, the patient is much reduced, either by ſevere evacuations, or merely by the effects of the complaint; when the pulſe is low, and the other ſymptoms of fever not conſiderable; in theſe circumſtances a very contrary treatment becomes neceſſary: the principal indication now being, to prevent the ſyſtem from ſinking too much, by a proper uſe of cordials, and eſpecially by thoſe of the tonic kind; while, by the ſame means, we enable it to free itſelf from, or to caſt off, the mortified parts. For, as we have alteady ob-

obſerved, the ſeparation of gangrenous from healthy ſound parts, being always effected by the intervention of inflammation, it ſhould be our chief care to aſſiſt nature as much as poſſible, in exciting in the ſyſtem, by every proper means, that diſpoſition which, from experience, we know to be moſt favourable for the production of inflammation; which, when ſpeaking of the general prediſpoſing cauſes of inflammatory complaints, we have endeavoured to ſhow, is a full plethoric ſtate of the veſſels, which at the ſame time is generally conjoined with a more invigorated tone of the veſſels themſelves.

It may, perhaps, be imagined, that this indication proves, in ſome meaſure, contradictory to what we lately adviſed with reſpect to the propriety of blood-letting in ſome caſes of gangrene. When properly conſidered, however, it will by no means appear to be ſo. For we well know, that, in every diſorder to which the ſyſtem is liable, an over-doſe of the moſt effectual remedy will often prove juſt as detrimental

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as a medicine of the moſt oppoſite tendency: and, in the ſame manner, though a certain degree of inflammation is, perhaps, abſolutely neceſſary for the cure of every gangrene; yet, in a very high degree, it becomes always exceedingly hurtful.

With a view to fulfil the intention of this indication, a good nouriſhing diet becomes neceſſary, with ſuch a proportion of generous wine as the patient's ſtrength and ſymptoms of the diſorder may ſeem to require.

By a due attention to this circumſtance of regimen, particularly by a proper allowance of wine, much more real advantage is commonly obtained, than ever occurs from the uſe of the whole tribe of ſtimulating warm cordials. When, however, the patient is much reduced, and very languid, ſome of theſe, ſuch as the volatile alkali, and confectio cardiaca, may, at the ſame time, and in ſuch quantities, be preſcribed, as the patient's immediate ſituation appears to render neceſſary.

But of all the medicines hitherto ufed in mortification, none proves fo certainly efficacious as the Cortex Peruvianus, which has often a very evident and powerful influence in putting a ftop to the diforder. As it is a very powerful tonic remedy, it may probably act by invigorating the general fyftem; and thus, by rendering it more fufceptible of that inflammatory tendency, which we have fhown to be fo neceffary for effecting a feparation of mortified parts, it may in this manner enable it to free itfelf from them. It may likewife, perhaps, in fome inftances, act as an antifeptic, merely by correcting putrefaction; though, in the former mode of operating, its effects, we apprehend, are generally much more confiderable than in the latter.

In whatever manner the bark operates, however, it can in no cafe of mortification be ever, with propriety, omitted, excepting in the firft ftage of the diforder, while feveral of the inflammatory fymptoms yet remain violent; but, as foon as thefe are

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tolerably abated, it may always, both with ſafety and advantage, be employed.

The beſt rule with reſpect to the quantity of the medicine to be exhibited, is to give it always in as large doſes, and theſe to be as frequently repeated, as the ſtomach can eaſily bear. It is a great inconvenience, however, which is found to attend almoſt every caſe of gangrene, that the ſtomach can ſeldom bear a ſufficient quantity of the bark in ſubſtance, which is always, we may remark, the beſt mode of uſing it; but particularly in this diſorder, when none of the finer preparations of the medicine are ever ſo much to be depended on.

Of all the different forms employed for exhibiting bark, I have generally found it ſit eaſieſt on the ſtomach when conjoined with ſome of the ſpirituous waters; and to the uſe of which, in ſuch caſes of gangrene as bark itſelf is proper in, there can never be any objection. The following formula is far from being diſagreeable, and

and I have known it anſwer with patients whoſe ſtomachs rejected every other.

℞. Aq. alexiter. ſimp.
cinnamon. fort. *aa* unc. iii.
aromatic. unc. ii.
Pulv. cort. Peruv. ſubtil. unc. ſs. miſce; coch. ii. omni ſemihora ſumendis, agitata phiala.

In this manner a drachm of the bark comes to be taken every hour, which, in general, in leſs than twenty-four hours, has a conſiderable influence in producing a change on the diſorder. A great deal depends upon the medicine being in a fine powder, as patients often bear conſiderable quantities of it in that ſtate, when they reject even very ſmall doſes of a coarſe powder.

As a ſpecies of bark has lately been much employed, of a more deep red colour than the kind in ordinary uſe, I think it right to mention the reſult of my own experience of it. I cannot pretend to form any judgment of the effects of this remedy in the cure of intermittents, as, in Edinburgh

burgh and its environs, agues are very rarely met with. But, ſo far as I have yet ſeen, its influence, in caſes of gangrene, and in correcting the thin fetid diſcharge of putrid ulcers, is far inferior to that of the beſt ordinary bark of a brown or cinnamon colour. One very remarkable inſtance of this it may not be improper to mention: A gentleman, for ſeveral years, had laboured under a ſinuous ulcer, the diſcharge of which, once in two or three months, always became thin, putrid, and very acrid. The influence of common bark, in correcting this, was ſo remarkable, that a few doſes of it commonly had a conſiderable effect in rendering the matter thick, and much leſs offenſive. From the taſte, and other ſenſible qualities of the red bark, being ſtronger than thoſe of the ordinary kind, I was at firſt inclined to think favourably of it; and among others I preſcribed it to this patient. But although he continued for ſeveral days to take it in the ſame doſes he had always uſed of the other, he did not experience any advantage from

it; while, on the other hand, on the common bark being again employed, the matter, from being thin and fetid, was quickly converted into pus of a proper confiftence.

One trial, however, is by no means fufficient for enabling us to form a juft opinion of any medicine: And accordingly I was refolved to put it to the fame teft in future occurrences of a fimilar nature. It has now been three times tried in the fame manner, and the refult has been always the fame. The red bark has never produced any change on the nature of the difcharge, while the influence of the other has been uniformly the fame. Indeed, our patient is now fo much convinced of the inefficacy of the former, that it is with reluctance he is induced to take it; although, at firft, his expectations from it were raifed very high, not only from the opinion I had endeavoured to give of it, but from the high panegyrics beftowed on it by others.

This is the moft remarkable cafe I have met with for comparing the effects of the dif-

different kinds of bark: but I have likewise seen the red bark fail in other cases, where the common kind of it proved evidently useful; so that, although I cannot with certainty say that the red bark will never prove useful in cases of mortification, and in such ulcers as we have described, yet from the result of all the experience I have yet had of it, I am inclined to consider it as of a very inferior nature to the other. Farther observation, however, is necessary to determine a matter of such importance.

Together with bark, the vitriolic acid is frequently employed with advantage; and the best form of using it is, by acidulating all the patient's drink with elixir of vitriol.

These are almost the only internal remedies to be depended on in cases of gangrene. Many others, indeed, have been recommended; but all the advantages to be obtained from any of them, may be procured with more certainty from some or all of those we have enumerated.

In the way of external application, we find a variety of remedies pointed out by

authors, and particularly thoſe of the antiſeptic kind; ſuch as, all the warm gums and balſams, ardent ſpirits, and even alcohol: and to admit of their nearer application to the ſound parts with a view to the preſervation of theſe from putrefaction, deep ſcarifications through the diſeaſed and into the ſound parts have been generally recommended.

But although ſuch articles may be of uſe in preſerving *dead* animal-ſubſtances from corruption; yet that they will always prove ſerviceable, in the ſame manner, in living bodies, is probably much to be doubted: And it is even apprehended, by the ſtrong irritation they always occaſion when applied to a living fibre, that, in ſuch caſes as the preſent, they may rather do miſchief; it being only, as we already obſerved, a very ſlight degree of inflammation that is required. The inciſions, too, when carried into the ſound parts, with a view to facilitate the operation of ſuch remedies, may likewiſe do harm; not only from the riſk of wounding the blood-veſ-

ſels,

ſels, nerves, and tendons, that ly in the way; but alſo, by allowing a free and farther entrance of the putreſcent fluids into the parts not yet affected: And unleſs they are carried ſo deep as freely to reach the ſound parts, applications of the antiſeptic kind can never have any effect in anſwering the purpoſe for which they are intended. For theſe reaſons, and from never having obſerved any advantages to accrue from ſcarifications, I have long thought that they might be entirely laid aſide *.

* Although I was convinced from experience of what is here advanced againſt the uſe of ſcarifications, as well as of the impropriety and inefficacy of very warm ſtimulating applications in caſes of mortification; it was not without diffidence that I firſt ventured to aſſert it, the opinion at that time being, in this place at leaſt, in a great meaſure new. I am now happy to find, however, in a late publication, the ſame practice recommended from the beſt authority. *Vide* Chirurgical Obſervations by Percival Pot, F. R. S. &c.

In the ſame publication is given a particular deſcription of a ſpecies of mortification incident to the toes and feet, in which Peruvian bark has little or no influence, and in which opium, given in large doſes, frequently repeated, proves a very effectual remedy.

Theriac was, in former times, and ſtill is with ſome practitioners, a very common application in all caſes of gangrene; but from any opportunities I have had of ſeeing it uſed, I cannot ſay that it ever ſeemed to produce any evident good effects.

All the advantages commonly derived from the great variety of applications recommended for gangrene, are obtained with more eaſe, and generally too with more certainty, from the uſe of any gently ſtimulating embrocation; which, by exciting a ſlight irritation upon the ſurface, and eſpecially when aſſiſted by a free uſe of the bark, as was already directed, at laſt commonly produces ſuch a degree of inflammation as is wiſhed for. With this view, I have frequently known a weak ſolution of ſal ammoniac in vinegar and water anſwer exceedingly well: a drachm of the ſalt to two ounces of vinegar and ſix of water, form a mixture of a very proper ſtrength for every purpoſe of this kind; but the degree of ſtimulus can be eaſily either increaſed or diminiſhed according to circumſtances,

cumſtances, by uſing a larger or ſmaller proportion of the ſalt.

Although, for the reaſons we have already advanced, inciſions may not, in general, be proper; yet, whenever the mortification runs deep, it is of ſervice to make ſcarifications into the diſeaſed parts, ſo as to remove a portion of them, which, by taking off a conſiderable load, perhaps, of putrid dead matter, not only leſſens the fetor, which in ſuch caſes is always conſiderable, but often renders it more eaſy for the ſound parts to free themſelves from the remainder: When with this view, however, inciſions are employed, care ſhould always be taken that they be not carried the length of the ſound parts.

Whenever, either by the means we have recommended, or by the effects of a natural exertion of the ſyſtem, a ſlight inflammation begins to ariſe between the diſeaſed and ſound parts, we may, in general, with tolerable certainty, expect, that, in due time, a thorough ſeparation will take place: and, when a full ſuppuration has

fairly commenced, there then can be little doubt but that the mortified parts will be very ſoon and eaſily removed.

A ſeparation being completely effected, the remaining ſore, which is then to be conſidered merely as a ſimple purulent ulcer, may be treated in the ſame manner as ſuch ſores generally are, with very ſlight eaſy dreſſings; at the ſame time that proper attention muſt always be paid to ſupport the ſtrength of the ſyſtem, by the continuance of a nouriſhing diet, the bark, and ſuch quantities of wine as may ſeem to be neceſſary.

Although ſuch ulcers, however, as remain after gangrenous affections that have not been very extenſive, may, in general, be healed in the manner now mentioned; yet, in mortifications ſeated on the extremities, and which have penetrated to the bones, it ſometimes happens that the whole ſurrounding ſoft parts come to be deſtroyed, ſo that amputation of the member is thereby rendered neceſſary. But we ſhould never have recourſe to amputation till a full and

and thorough ſeparation of the mortified parts has taken place: ſo that it ought, in every caſe of gangrene, to be held as an eſtabliſhed maxim, never to amputate a member till a full ſtop has been put to the diſeaſe, or even till a complete ſeparation of the mortification from the ſound parts has been produced. For, although the parts immediately contiguous to thoſe *evidently* diſeaſed, may outwardly appear to be ſound, yet there can never be any certainty of thoſe, even directly below, remaining ſo till a ſeparation occurs; ſo, till this has evidently taken place, we can never have any ſecurity for the diſorder not returning, and perhaps immediately too, upon the remaining ſtump.

It muſt be obſerved, however, that as ſoon as an entire ſeparation of the gangrene has occurred, no time ſhould be unneceſſarily loſt in putting the operation in practice; for, as long as any of the corrupted parts remain in contact with the ſound, the ſyſtem muſt ſtill be ſuffering conſiderably,

ably, by the conſtant abſorption of putreſcent particles, that ſo long will undoubtedly take place.

CHI-

CHIRURGICAL
ESSAYS.

PART II.

On the Theory and Treatment of Ulcers.

SECTION I.

Obſervations on Ulcers in General.

BY different authors very different definitions have been given of the term Ulcer: But what in general ſeems to be underſtood by it is, A ſolution of continuity in any of the ſofter parts of the body, diſcharging

diſcharging either pus, ſanies, or any other vitiated matter; and this, whether the complaint may have originally proceeded from an internal or an external cauſe.

Many writers, indeed, have confined the term to ſuch ſores as are the conſequence of ſome internal diſorder of the ſyſtem. But in this they have certainly erred: for even the moſt ſimple wound, not in the leaſt connected with any other diſeaſe, if it does not heal by what is called the firſt intention, without the formation of matter, muſt, in its progreſs towards a cure, always end in an ulcer.

Although, in compliance with cuſtom, we have, in the definition, confined the ſeat of ulcers to the ſoft parts only; yet that ulcers of the bones do likewiſe occur, is certain. Thus every ſpecies of caries attended with loſs of ſubſtance, may, with propriety, be termed an ulcer; and it is ſo in reality, both in its appearances and effects.

But, in order to prevent ſuch confuſion as commonly occurs from the introduction

of

of more diſtinctions than are abſolutely neceſſary, I mean to conſider caries as an accidental ſymptom of ulcers, and to ſpeak of it under the general denomination of Carious Ulcer.

Ulcers have been commonly diſtinguiſhed by different appellations, according to ſome particular circumſtance attending them; and different methods of cure have accordingly been pointed out for each: And if theſe had been taken from characteriſtics ſufficiently diſtinct, and of any real conſequence either in the theory or treatment of the different diſorders, they would certainly have been material, and ought to be retained. But as it is evident, that many of them have been formed from circumſtances either not very obvious, or from ſuch as are merely accidental, and that do not, therefore, afford any real diſtinction; to adhere to theſe, could never be productive of any advantage; and might even, it is preſumed, frequently do miſchief, by leading to a more complicated practice, when a much more ſimple treatment

ment would probably anſwer the purpoſe.

The different circumſtances from which ulcers have received their denominations, are,

1. From the general appearances of the ſolids in the parts diſeaſed: as the Callous, Fungous, Fiſtulous, &c.

2. From the nature of the matter diſcharged: as the Ichorous, Sordid, and Purulent; from their diſcharging a thin ichor, a more viſcid glutinous kind of matter termed ſordes, and purulent matter.

3. From their duration; as the Recent, and Habitual.

4. From the attendant ſymptoms being mild or violent, they are denominated Benign or Malignant. And,

5. They have been termed Venereal, Scorbutic, or Scrophulous, according as they have been ſuppoſed to be connected with the Lues Venerea, the Scurvy, or Scrophula.

Though it may be proper for practitioners to

to be acquainted with theſe and other terms that have been uſed, in order more accurately to underſtand the meaning of authors, and to explain to one another the appearances of diſeaſes; yet it is exceedingly obvious, that many of the diſtinctions we meet with in books, have been taken from circumſtances quite too trivial to have any real influence on the diſorders, and which conſequently can have no other effect than to embarraſs and perplex all ſuch as enter upon the ſtudy of this branch of practice.

§ 1. *Of the Arrangement of Ulcers.*

The following arrangement of ulcers, at the ſame time that it appears to be ſimple and natural, comprehends every ſpecies of the complaint that can occur; and, if duly attended to, will, we hope, render the method of treating them more effectual, and at the ſame time more certain, than in general it is found to be.

Ulcers, then, may be divided into two general

general claſſes. In the firſt, we mean to comprehend all ſuch as are merely local, and that do not depend upon any diſorder of the ſyſtem.

In the ſecond claſs, all ſuch ulcers are included as are the conſequence of, or that are connected with, any diſorder of the conſtitution.

The importance of ſuch a claſſification appears evident from the very great difference in the treatment, which undoubtedly ſhould take place, between ulcers that are only topical affections, and ſuch as are connected with any diſorder of the ſyſtem. It is frequently, indeed, from want of due attention to a diſtinction of this nature, that the treatment of ulcers is rendered ſo tedious and uncertain as it very often is. For, by forming a diagnoſis too haſtily, and by treating an ulcer that is merely a topical affection, with remedies directed to ſome diſorder of the general ſyſtem, many are forced to undergo very unneceſſary courſes of medicine, and may thereby have their conſtitutions irreparably hurt.

A contrary error, again, not unfrequently happens, which is ſometimes attended with very diſagreeable conſequences, namely, the treating, as ſimple local affections, thoſe ulcers which are certainly owing to ſome general diſorder of the habit; and which it is, therefore, in vain to expect to cure by topical remedies, unleſs the diſeaſe of the conſtitution be at the ſame time attended to. Sometimes, too, an ulcer is treated as a diſorder of the conſtitution; but, by miſtaking the nature of the complaint, which of courſe muſt occaſion a miſapplication of remedies, the cure of the ſore is thereby not only greatly retarded, but the ſyſtem in other reſpects is often brought to ſuffer very materially.

Thus, an ulcer connected with a ſcorbutic habit of body, is not unfrequently miſtaken for, and treated as, a leprous, or perhaps a venereal affection; a circumſtance which muſt undoubtedly lead to a kind of practice that will frequently be attended with diſagreeable conſequences.

The only cauſe that can occur, to occa-

fion fuch miftakes in practice, is the want of a proper fet of diagnoftic fymptons for the feveral fpecies of ulcers. This, in the enfuing fections, we have in fome meafure endeavoured to remedy, by enumerating, as clearly and concifely as poffible, the different characteriftic fymptoms of each: the feveral varieties we have mentioned, contain every diftinction of importance; but as they are not near fo numerous as thofe commonly enumerated by authors, the means of diftinction we have propofed will probably characterife them with more precifion than ulcers in general have hitherto been.

But before going on to the particular confideration of the different fpecies of the diforder, it will not be improper, in the firft place, to make a few obfervations upon ulcers in general; and firft with refpect to their caufes.

§ 2. *Of the Caufes of Ulcers in general.*

The caufes which, in different circumftances,

ſtances, may give occaſion to ulcers, are exceedingly various; but in general they are found, on examination, to ariſe from one or other of the following nature.

1. From ſuch as may be termed Occaſional or Exciting Cauſes: Of which kinds are, wounds in general—bruiſes ending in ſuppuration—burns—and inflammation, from whatever cauſe it may have ariſen, when it terminates either in gangrene or ſuppuration.

2. From ſuch as with propriety may be termed Prediſpoſing Cauſes; of which kind are conſidered, all diſorders of the ſyſtem in general, attended with determinations to, or affections of, particular parts: ſuch as fevers of all kinds that terminate in what are called Critical Abſceſſes—alſo Lues Venerea—Scrophula—and Scurvy.

3. Ulcers may proceed from a combination of the two foregoing cauſes. Thus a ſlight ſcratch, or excoriation, that in a ſound conſtitution would heal without any trouble, in a habit tainted with any

of the above-mentioned diſorders, will frequently produce a very diſagreeable and tedious ulcer.

§ 3. *Of the Prognoſis of Ulcers in general.*

THE cauſes of ulcers being ſo very various both in their nature and effects, the prognoſis to be given in all ſuch complaints muſt, it is evident, be no leſs ſo.

1. It muſt depend upon the nature of the different exciting cauſes that may have given riſe to the diſorder.

2. Upon the ſituation of the ſores; and,

3. On the time of life and habit of body of the patient at the time.

With reſpect to the firſt of theſe, it is evident, that the occaſional cauſe muſt have a very conſiderable influence on the nature of the complaint. Thus an ulcer proceeding from a ſimple wound, inflicted with a clean cutting inſtrument, will, cæteris paribus, always heal more eaſily, than one that has been the conſequence, either of a ſevere bruiſe, or of a wound from a foul ragged inſtrument.

It

It is likewiſe found, that punctured wounds are much more difficult of cure, than ſuch as have large free openings; and this again may be owing to two different reaſons.

1. To the want of a free exit to the matter; which, in punctured wounds, is very apt to inſinuate between the common teguments and muſcles, and even between the interſtices of the different muſcles themſelves: a circumſtance that frequently lays the foundation of very troubleſome ſinuſes.

2. Pain and inflammation are always much more troubleſome in wounds occaſioned by punctures, than in thoſe where the parts have been freely and extenſively divided. For it is found by experience, that the irritation occaſioned by the partial diviſion, either of a nerve or of a tendon, proves always much more conſiderable than when the parts have been thoroughly cut in two: And hence has ariſen the practice of enlarging all ſuch wounds; which often carries off the pain and in-

flammatory ſymptoms more effectually, than all the applications and remedies that in ſuch caſes are generally recommended.

Secondly, The cure of ulcers, it was obſerved, is conſiderably influenced by their ſituation; and this, we may remark, is the caſe in two different reſpects.

1. With reſpect to the nature and organization of the parts on which they are ſeated; and,

2. As to their ſituation on the trunk of the body, or on the upper or lower extremities.

Thus it was long ago remarked, and it has ſince been confirmed by experience, that ulcers in the ſoft fleſhy parts heal much more eaſily, than when the tendons, aponeuroſes of muſcles, glands, perioſteum, or bones, are affected.

The pain occaſioned by ſores in the ſoft muſcular parts is not ſo conſiderable, the diſcharge is generally better-conditioned, and the cure commonly advances more quickly, than when any of the other parts are the ſeats of the diſorder: And, on the

other

other hand, whether ulcers are seated in the cellular membrane, in the tendons, periosteum, or bones, their cure is always observed to go on much more easily when seated in the trunk of the body, than on any of the extremities; and of these, again, the legs and feet are found by every practitioner to be the most troublesome situation for sores of every kind.

The depending situation of the latter seems to be the principal cause of such a difference: for the fluids having, in them, to proceed in a direction contrary to their own gravity; and this too at such a considerable distance from the heart, where the influence of that organ cannot be material; whenever any of the parts happen to lose their tone, or by any accident suffer in their arrangement, swellings, especially those of the serous kinds, very naturally occur. And, when such swellings do arise in the neighbourhood of ulcers, by occasioning too great an afflux of matter to the sores, the discharge at last becomes vitiated in its quality likewise; and thus the cure

is protracted, till the parts, by reſt and proper management, have again recovered their natural tone.

It is from this circumſtance chiefly, that a material part of the cure in ulcers of the legs is found to be obtained from reſt, and in keeping the limb in an horizontal poſture. One great advantage too of the laced ſtocking, in ſuch caſes, conſiſts in its tendency to prevent theſe kinds of ſwellings: This will hereafter, however, be more particularly taken notice of.

The ſituation of ulcers, with reſpect to the neighbourhood of large blood-veſſels and nerves, from the danger of theſe at laſt becoming affected, muſt, likewiſe, have a conſiderable influence on the prognoſis; as ought alſo their being ſeated upon, or very near to, any of the large joints; or there being any riſk, from their ſituation, of the matter penetrating into either of the cavities of the cheſt or abdomen.

It was, in the *third* place, obſerved, that the prognoſis, in every caſe of ulcer, ſhould be

be much influenced by the age and habit of the patient.

Thus, in young healthy people, all the secretions are commonly better proportioned, both in quantity and quality, than in the old and unhealthy, in whom the secreting organs are seldom capable of performing rightly their different functions: And as the different discharges from ulcers are to be considered almost entirely as secretions from the general mass of fluids, their being of a good or a bad quality, must of course depend so much on a healthy state of the solids, that it cannot appear surprising, their being so much influenced by the general health of the patient.

The cure of ulcers depending, therefore, upon such a number of circumstances, a just prognosis, it is evident, can only be obtained from a due attention to all their varieties.

§ 4. *The Cure of every Ulcer may, with certain Cautions, be ſafely attempted.*

WITH reſpect to the *treatment* of ulcers, the firſt circumſtance to be determined is the propriety of attempting a cure or not. That it is proper to endeavour to heal every recent ſore, is univerſally allowed; but when ulcers have been of long continuance, or when they appear to have had any effect, either in carrying off, or in preventing any diſorder to which the conſtitution may have formerly been liable, it has always been conſidered as dangerous to attempt their cure: and, accordingly, almoſt every author who has written upon the ſubject, has expreſsly determined againſt it, as being an uncertain, and even a dangerous practice.

Such ulcers as have afforded a copious diſcharge, and have been of very long ſtanding, it would no doubt be exceedingly imprudent all at once to heal up, as the ſyſtem might probably ſuffer from the

the ſudden retention of a conſiderable quantity of fluids, which it had been accuſtomed for a long while to throw off by means of ſuch drains. Many caſes, indeed, have ended fatally, upon ſuch ulcers drying up ſuddenly, either of their own accord, or by the imprudent uſe of aſtringent applications.

On the other hand, however, the trouble ariſing from a foul extenſive ſore, diſagreeably ſituated, and which is probably to continue for life, is an inconvenience which none but very old or inactive people can be ſuppoſed willingly to ſubmit to: and, therefore, the diſcovery of ſuch a courſe as can render it ſafe for patients to attempt the removal of ſuch diſorders, becomes at once a moſt important object.

With a ſmall degree of caution, the cure of every ulcer, we think, may be attempted; the only requiſite precaution, before entering upon the means neceſſary for this purpoſe in habitual ſores, being the introduction of ſome other drain, by means of a pea-iſſue, or of a cord: The former of theſe is managed with the greateſt eaſe; and,

and, by increasing or diminishing the size and number of peas made use of, the quantity of matter may be increased or diminished at pleasure.

§ 5. *Of the Effects of Issues in the Cure of Ulcers.*

An issue of this kind being introduced, and having come to discharge properly, and in quantity nearly equal to what the ulcer afforded, the cure of the latter may be then carried on with freedom; and if the sore has not been of very long standing, the size of the issue may be gradually lessened, till it is brought to contain a single pea only, which will produce a constant discharge, with very little trouble.

But when, on the contrary, the ulcer has been of long continuance, and especially if it seems to have been instrumental in preventing any other formidable complaint; in this case, the issue should undoubtedly be continued of the same size for life: but even this may be done with no

no great inconvenience, at leaſt in comparifon with the trouble attending a large ulcer.

This practice might, we think, from reaſoning alone, be conſidered at leaſt as ſafe. For, if a drain equally copious is firſt introduced, and is afterwards kept running, the healing of the ulcer for which it was ſubſtituted, however old it may have been, cannot, probably, in theſe circumſtances, be productive of any harm to the conſtitution. And I can ſay, from much experience in this branch of ſurgery, that nothing commonly proves more effectual in the cure of old ulcers, than iſſues; and I never knew an inſtance of their being attended with any material inconvenience.

The objections that have been made to the practice here recommended, are,

1. That an artificial iſſue, to be continued for life, is almoſt as troubleſome and diſagreeable in its management, as a natural ulcer. And,

2. That nature having been for a long time accuſtomed to the diſcharge of a particular

ticular kind of morbid matter afforded by the ulcer, we ought not, by innovations, to run any riſk of diverting her ſtated and uſual operations.

The firſt of theſe arguments is very eaſily, and has already, indeed, been partly anſwered; for it cannot be readily admitted, that a ſimple iſſue, for which we can chooſe the moſt convenient ſituation, will ever prove ſo troubleſome as a large ulcer, and which is probably, too, very inconveniently ſituated. Of this, indeed, we have evident demonſtration, from daily experience; there being few complaints more perplexing to patients than extenſive ulcers; eſpecially when the diſcharge is ſo thin and acrid as to fret the neighbouring parts, and which is not unfrequently the caſe.

§ 6. *The Effects of Ulcers on the Conſtitution, depend more on the Quantity, than on the Quality of the Matter diſcharged.*

The other objection alleged againſt the practice of healing old ulcers, is, as was already

ready obſerved, the ſuppoſed danger ariſing to the conſtitution, from the retention of a particular kind of morbid matter, which by their means it had been accuſtomed to throw off.

By the ſupporters of this objection it is ſaid too, that although the matter of an iſſue may be equal in quantity to that afforded by an ulcer; yet that its being of a different quality, muſt render the diſcharge much leſs ſalutary.

And it muſt be acknowledged, that we do almoſt univerſally obſerve the greateſt difference between the matter of an iſſue, and that which is diſcharged from an ulcer: from the latter it being frequently thin, ſharp, and acrid; whereas a mild bland pus is the moſt common diſcharge from iſſues.

The foregoing argument, at firſt ſight, appears very concluſive; and it has probably, with many, been the principal reaſon for rejecting the practice in queſtion. Upon due conſideration, however, it will not, it is preſumed, be found to be of much importance: and, that it is more owing to the

the quantity diſcharged by ulcers, than to the quality of the matter, that they prove uſeful to the conſtitution or otherwiſe, will, with very little reflection, be rendered exceedingly evident.

Thus it is obſerved, that the ſtoppage of even a pea-iſſue, though it may never have diſcharged any thing farther than the mildeſt and moſt ſimple pus, if it has been of long continuance, proves equally dangerous to the conſtitution, as the ſtoppage of an ulcer that has diſcharged nothing but matter of the moſt acrid kind: a circumſtance which could by no means be the caſe, if the common opinion was well-founded, namely, that the bad effects of drying up old ſores, are to be attributed ſolely to the retention of a noxious matter, which had formerly been diſcharged by them.

And, that the quantity merely of matter diſcharged, ſhould, independently of every other circumſtance, have a conſiderable influence on the ſyſtem, cannot appear in the leaſt ſurpriſing, when we re-

fleƈt

flect on the very confiderable proportion of fluids requifite for the fupply of an iffue, of even a moderate fize, with pus. For, independent of the quantity that appears and is difcharged at the different dreffings, a large exhalation and abforption likewife of the more thin ferous parts is conftantly and at all times going on; which circumftance alone accounts for the debilitating effects frequently produced by iffues, which in point of fize appear very inconfiderable *.

Were we, indeed, certain that fuch acrid and putrefcent matters, as are frequently difcharged by ulcers, previoufly exifted in the mafs of blood, and that fuch fores ferved merely as drains for thefe; this would, no doubt, prove a very weighty argument: but as it is probable, and indeed, I may

 fay,

* Upon this fubject Sir John Pringle remarks: "As "near as I could guefs, an ounce of ferum, upon ftand- "ing fome days, did not furnifh more of this matter, "viz. Pus, than what might be produced by the daily "running of a pea-iffue, or of a feton." Vid. Exper. xlv. Appendix to difeafes of the Army.

ſay, certain, that it is by the ulcer only that ſuch kinds of matter are formed, and that none of them previouſly exiſted in the blood, we are induced therefore to conſider this argument as of little or no importance.

Very little conſideration, indeed, will make it appear, that no ſuch varieties of matter, as are frequently obſerved to flow from ulcers, ever exiſted in the blood. No analyſis of the blood has ever been able to diſcover them: Nor can it be conceived, how fluids ſo acrid, and ſo different from the blood of a healthy perſon, can circulate in the delicate and irritable veſſels of the human frame, without producing dangerous or even fatal effects. Now it is well known, that the diſcharge from ſome kinds of ulcers, eſpecially from thoſe generally termed Phagedenic, is often ſo acrid, as not only to excoriate the ſurrounding parts, but even ſometimes to render it dangerous for a ſurgeon to apply the neceſſary dreſſings.

The diſcharge which occurs from the eyes,

eyes, in ſome inſtances of ophthalmia, has been known too to be ſo acrid, as to corrode the neighbouring parts; and the ſerous evacuation produced by bliſters, although commonly inoffenſive, is ſometimes poſſeſſed of a great deal of acrimony.

In ſome caſes of ſcurvy, indeed, a conſiderable degree of putreſcency, even of the blood itſelf, does, no doubt, frequently take place: but it is not in ſuch ulcers as occur in this diſeaſe, that ſuch very acrid corroſive humours, as we are now deſcribing, are ever obſerved; the phagedenic ulcer of authors, being a very different diſorder from the true putrid ulcer, as deſcribed by Lind and other writers on ſcurvy.

Beſides, though it were really proved that theſe kinds of matter actually did exiſt in the blood, even in a completely formed ſtate, how is it poſſible, that by means of ſuch ulcers, or any other drains, the morbid fluids chiefly ſhould be evacuated, and ſuch only left behind as are mild and innoxious? A circumſtance which, how-

ever improbable it may appear, has always been aſſerted by the ſupporters of the opinion in queſtion.

The obvious inſufficiency of this theory ſhould induce us to reject it, though we could not propoſe a more ſatisfactory opinion in its place. But, as the various appearances and alterations which take place in the diſcharge of ulcers, ſeem evidently to depend in a great meaſure on ſome peculiarity of the ſolids, or ſecretory organs connected with them, we are therefore more eaſily induced to conclude, that other ſuppoſitions do not merit our attention.

The general ſeat of ulcers is in the cellular membrane. Now it is well known, that naturally there is ſecreted into the cells of this membrane, as there is into every cavity of the body, a thin tranſparent ſerum, the principal intention of which is to keep theſe moiſt, and to facilitate the actions of ſuch muſcles as are connected with it. It is this chiefly, with a greater proportion of the coagulable part of the blood, which, with a due degree of heat, as

was

was elsewhere remarked, forms that matter which we call pus; and which we suppose, and indeed find, to be the natural discharge of ulcers in a sound healthy state of the body; and it is some change induced upon the nature of this fluid which occasions the varieties in the discharges from ulcers, and from the same ulcer at different times.

Such changes, though they may frequently be, in some degree, influenced by different circumstances, as will hereafter be observed, must yet, in a great measure, depend upon some particular affection of the vessels that separate such fluids from the blood: for, by means of an external topical application merely, we can often change the appearance entirely of the matter of an ulcer; which in that manner we could never do, if the change produced upon it depended on an alteration effected on the general mass of blood.

According to the nature of the exciting and other causes of ulcers, it is not unreasonable to suppose, that very considerable

differences will occur in their effects upon the ſecreting organs to which they are applied. Thus, it may readily be preſumed, that a burn will produce a very different effect from a cut, a bruiſe from a puncture, &c.; and that likewiſe, according to the particular ſtate of the patient's health at the time, very conſiderable differences will in the ſame manner take place.

In what manner theſe different cauſes operate in producing ſuch various effects upon the ſolids or ſecreting veſſels of ulcers, is not, perhaps, to be ſo eaſily explained, nor can we determine preciſely what the particular changes they induce upon ſuch parts really are. But, as all the cauſes of ulcers, with which we are acquainted, are of an irritating or ſtimulating nature, it is probable they all act by producing ſome inflammatory affection on the extremities of ſuch veſſels as empty into the ſores; and therefore, that the nature of the diſcharge will in every reſpect depend much upon the degree of inflammation thus raiſed.

We have endeavoured to ſhow in the preceding part of this work, that one certain effect of inflammation is to propel a greater quantity of the red globules of the blood into the ſmaller ſets of veſſels, than naturally they are intended to tranſmit. This, when it occurs in veſſels diſcharging their contents into ulcers, and eſpecially when the inflammation is conſiderable, will render the matter very different, both in colour, ſmell, and acrimony, from genuine pus, which we have already demonſtrated to be produced from pure ſerum only.

Upon this principle it is evident, that many of the varieties of matter which we meet with in ſores, may be accounted for: But other circumſtances likewiſe occur, which have ſome influence in producing many of the alterations that are obſerved. The degree of heat eſpecially, in which the part is kept, as will afterwards be more particularly remarked, and the remora of the fluids for a longer or ſhorter time in the cavities of ſores, muſt have no ſmall influence in many reſpects, but eſpecially

on the degrees of conſiſtency obſerved in them.

From one or other of theſe circumſtances, or from different modifications of all of them, the various appearances in matter afforded by wounds and ulcers, are very clearly explained, without having recourſe to that inexplicable doctrine of their preexiſting in the ſyſtem. But although the caſe were otherwiſe, and that the ſeveral differences obſerved could not be ſo eaſily accounted for; yet that they depend in a great meaſure on ſome *peculiar action or conformation* of the veſſels in the part affected, ſeems to be ſtill more evident and probable than any other opinion hitherto advanced; and is juſt as certain as a great many circumſtances under our daily obſervation, that we cannot in any manner account for, and yet have no ſort of doubt as to their reality.

Thus, in what manner the nerves, which in their ſtructure are all ſo ſimilar, act in the production of hearing, viſion, taſte, and

and all the different ſenſes, is, perhaps, impoſſible ever to determine; as is alſo the action of the liver, ſecretory organs of the mouth, ear, &c. in producing fluids of ſuch different natures from the ſame maſs of blood, and which did not previouſly ſeem to exiſt in it: Only that the facts are ſo, nobody pretends to doubt: And till the contrary is evidently demonſtrated, we have the ſame reaſon to believe, that the different appearances of ulcers with reſpect to the varieties of matter afforded by them, are at leaſt more frequently owing to ſome of the local cauſes we have enumerated, than to any indiſpoſition of the general maſs of blood.

I have ſaid, more frequently only, becauſe there are, no doubt, ſome particular caſes of ſcurvy and of other putrid diſeaſes, as we have formerly remarked, in which the blood is ſo much diſſolved, as to run off by ulcers and other drains in the form of a bloody ichor: ſuch caſes, however, occur very rarely, except in high degrees of the true ſcurvy, which are not often

met

met with in any country; and, although they were more frequent than they really are, they could never account for all the varieties of matter afforded by ulcers.

The principal objection, therefore, that has been made to the healing of long continued ulcers, ſeems, on being examined into, to be no better founded in theory, than it is, as we have formerly remarked, on real experience. For, although it has been ſtrongly inculcated by the generality of authors, never to attempt the cure of ſuch ſores, yet all of them have probably been either biaſſed by that favourite opinion of morbid matter in the ſyſtem; or, a few having led the way and laid down principles, the reſt have indiſcriminately copied from them, without having recourſe to experience.

Nay, we even imagine, and indeed it is pretty evident, that long continued ulcers, inſtead of proving ſerviceable to the conſtitution, are not unfrequently attended with much riſk and danger. Thus, it is very common for ulcers on the ſhin

and

and other parts immediately above the bones, to penetrate ſo deep as to affect the perioſteum, and ſometimes even the ſubſtance of the bones themſelves; which always produce very troubleſome and often dangerous carioſities; every riſk of which is avoided by having recourſe to an iſſue in a proper ſituation, at the ſame time that every advantage is obtained from it as a drain.

The conſtitution muſt likewiſe, in another reſpect, ſuffer much more from the long continuance of an ulcer, than it ever can do from the ſubſtitution of an iſſue: For it will ſurely be acknowledged, that a very conſiderable part of the matter ſecreted by ulcers, muſt be again taken into the ſyſtem by the lymphatics; and when it happens to be of a corroſive irritating nature, which in old ſores it frequently is, not only the general maſs of fluids, but even the ſolids themſelves, muſt thereby in time become greatly vitiated.

Accordingly, there is nothing more common, than very troubleſome and even dangerous

gerous obstructions of such external glands as are situated in the course of the lymphatics, leading from such ulcers; and as the glands seated internally are undoubtedly, from the same cause, liable to the same sort of affections, it surely cannot be denied, but that, from this circumstance alone, considerable danger may attend a long continued ulcer.

Thus it appears, from every consideration, both with respect to convenience and safety, that the cure of every ulcer ought to be attempted; and, with the previous caution of inserting an adequate drain, it may always be done without any kind of risk.

This much it was thought necessary to say in general, with respect to the propriety of attempting the cure of ulcers; and I have insisted the longer upon this part of the subject, as the opinion generally received of it appears to be very ill-founded, and not adopted from experience, but from hypothetical reasoning alone.

When the healing of an ulcer, then, is

to be attempted, the method to be purſued for its accompliſhment muſt next be attended to. By almoſt every author who has given directions on this ſubject, four different ſtates, as they are termed, are enumerated, as being neceſſary for an ulcer to go through in its progreſs towards a cure, namely, thoſe of digeſtion, deterſion, incarnation, and cicatriſation; and various remedies have been recommended as proper for the different ſtates, and for theſe only: And, upon this part of the ſubject, it may be obſerved, authors have ſpoken with as much certainty and preciſion, as if every circumſtance in the treatment of ulcers could be regulated at diſcretion.

Thus all the different kinds of turpentines, as likewiſe the unguentum Ægyptiacum, powders and tinctures of myrrh, euphorbium, aloes, &c. are pointed out as digeſtives: as detergents, unguentum baſilicon, linimentum Arcæi, mercurius precipitatus ruber, &c.: with a view to promote incarnation, or the growth of new granulations, powders of maſtich, thus, &c.: and

and as cicatriſers to accompliſh the cure, we find recommended a variety both of ſimple and compound applications, particularly all the aſtringent boles, earths, lime-water, &c.

Such a number of diviſions, however, in the ſeveral ſtates or ſtages of ulcers, with the conſequent indications of cure, and remedies recommended for the accompliſhment of theſe, has had a conſiderable tendency to render the treatment of ſuch diſorders more complicated than we find from more late obſervation to be in any degree neceſſary. The indications pointed out in the following ſections, we hope, will appear to be juſt and ſimple; and the effects of the methods of cure we have recommended, will probably be found much more conſiderable than thoſe which commonly reſult from a more complex treatment.

We now proceed to a particular conſideration of the different claſſes and ſpecies of ulcers; and in pointing out the ſeveral diſtinctions, it will be obſerved, as we formerly hinted, that they are obvious circumſtances

cumſtances only, and ſuch as at the ſame time indicate and require ſome peculiarity in the method of treatment, that are allowed to have any influence in characteriſing a ſpecies.

Thus, thoſe of the firſt claſs, will all of them, in their appearances, be found very different from one another; and all of them will likewiſe require ſomething peculiar in the method of cure: And again, thoſe of the ſecond claſs, it is preſumed, are equally well diſtinguiſhed, and by ſimilar circumſtances, not only from one another, but from every one that with propriety could be conſidered as belonging to the preceding claſs.

In the firſt diviſion of ulcers we comprehend, as was formerly remarked, all ſuch as are merely local, and that are not connected with any diſorder of the conſtitution; and, in this view, we mean to conſider the following different ſpecies, *viz.*

1. The ſimple purulent ulcer.
2. The ſimple vitiated ulcer.

3. The fungous ulcer.
4. The ſinuous ulcer.
5. The callous ulcer.
6. The carious ulcer.
7. The cancerous; and,
8. The cutaneous ulcer.

In the ſecond claſs of ulcers all ſuch ſores are meant to be included as are the conſequence of, or that are connected with, any diſorder of the ſyſtem. The different ſpecies of which are, the Venereal—the Scorbutic—and Scrophulous ulcers.

It is propoſed, as being firſt in order, to go through the conſideration of the ſeveral ſpecies of ſores contained in the firſt claſs; and to proceed afterwards, in courſe, to thoſe enumerated in the ſecond diviſion.

SEC-

SECTION II.

Obſervations on the ſimple purulent Ulcer.

§ 1. *Of the Symptoms, Cauſes, and Prognoſis, of the ſimple purulent Ulcer.*

BY the ſimple purulent ulcer, is meant, that ſpecies of ſore, which is entirely a local affection, and is attended with a very inconſiderable degree of pain and inflammation, whilſt the diſcharge afforded by it is always of a mild purulent nature, and of a proper conſiſtence.

This ſpecies of ulcer is fixed upon as the firſt to be treated of, from its being the moſt ſimple that can occur, both in its ſymptoms and method of cure. And, as it is to the ſtate of ſuch an ulcer that every other ſpecies of the diſorder

muſt be reduced, before a permanent cure can be obtained, we ſhall be more particular in our obſervations with reſpect to it than otherwiſe might be neceſſary: When we come too to treat of the different varieties of ulcers, if the treatment of theſe ſhall at any time coincide with that which we are now conſidering, proper references, in order to prevent repetitions, will always be made to what may be here advanced.

Together with the circumſtances already mentioned in the definition of this ſpecies of ulcer, it is not improper here to remark, that the granulations which ariſe in it are of a firm, freſh, red, healthy appearance; and, if no unforeſeen accident occurs, the cure, in general, goes on regularly, and without interruption, till a cicatrix is produced.

In conſidering the origin of the diſorder, it may be obſerved, that even this, the moſt ſimple ſpecies of ulcer, may be produced by a great variety of cauſes; but, from the definition we have given of it, it will be underſtood, that they muſt all be ſuch as

act

act merely by producing a local affection, without in the least disordering the system.

In this view we are to consider wounds of all kinds that do not immediately unite without the formation of matter; and this whether they may have been attended with loss of substance or not. Under this head we may rank all chirurgical operations attended with incision into any part of the body.

Among other causes of such ulcers, must be mentioned, burns, in whatever manner they may be produced, whether by fire, aquafortis, scalding liquids, &c.; also bruises; and in short, every external accident that terminates in suppuration, with an opening as a consequence of it.

We do not, however, by any means intend to assert, that a simple purulent ulcer is always a necessary and an immediate consequence of the different circumstances we have enumerated; for the very reverse of this is frequently found to take place. Thus burns, especially, are sometimes

known to produce very troublesome vitiated ulcers; and bruises, as well as all the other causes we have mentioned, are not unfrequently attended with the same effect. It is only contended, that some one or other of them may in general be considered as the primary or original cause of such ulcers, independent of any appearances they may exhibit before they are brought into the simple purulent state.

With respect to the prognosis in this species of ulcer, it should almost in every instance be exceedingly favourable; more or less so, according as there is a less or a greater loss of substance, and according to the situation of the sore and habit of body of the patient. These circumstances being attended to, together with what has already been mentioned upon ulcers in general, there will never remain any doubt with respect to the prognostic.

Before we proceed to a particular investigation of the means to be employed in the cure of a simple ulcer, it will not be improper to offer a few general observations upon

upon the manner in which nature seems to operate in accomplishing the cure of sores, as also on the effects of such assistance as may be afforded by art for effecting the same purpose.

§ 2. *Remarks on the Growth of new Parts in Sores.*

THERE is evidently in every ulcer, in its progress towards a cure, a growth of parts that tends considerably to diminish any vacancy which the disease has produced. This substance, from the granulated form it assumes, has been generally termed Granulations; and it appears, in every wound, in larger or smaller proportions, according as the patient is young or old, healthy or otherwise; insomuch that, in young plethoric people, the increase of parts is often so considerable, as to rise above the level of the neighbouring teguments, and to require the use of different caustic applications with a view to repress it.

When any loſs of ſubſtance that may have been produced, is thus, as far as poſſible, ſupplied, the remaining part of the cure conſiſts in the formation of a cicatrix. This is effected, either when nature alone produces an exſiccation, as it were, of the ſurface of ſuch granulations as had been previouſly raiſed, and in that manner forms a kind of cuticle or ſcarf-ſkin; or, it is obtained by art from the uſe of drying aſtringent applications.

By the formation of new parts, or granulations, it is not here, or wherever the term may be made uſe of, meant to inſinuate, that we ſuppoſe, real muſcular or other organiſed parts are ever regenerated in thoſe wounds or ulcers wherein they have been deſtroyed; but merely to expreſs that production, which, if the conſtitution be ſound, always takes place to a certain degree in ulcers, attended with loſs of ſubſtance.

The real nature of this production is not, perhaps, eaſily to be determined: but, from its ſeveral appearances, it is obviouſly

very vascular; from which it is probable, that it consists in an elongation or extension of the small blood-vessels that have been divided, with a considerable proportion of inorganic cellular substance; which, again, is most probably formed by a matter secreted from the mouths of such vessels, and which serves chiefly as their support or means of connection.

We are not to imagine, however, that any very extensive loss of substance is ever to be entirely filled up in this manner: for although, in particular circumstances, nature does effect the repair of very considerable accidental losses; yet, in general, her operations of this kind are very limited. In youth, indeed, before the different parts have arrived at their full growth, and while the several vessels are yet daily extending themselves, considerable losses are, often, almost completely repaired: but we ought not, even at this period of life, to attribute, as practitioners commonly do, such cures entirely to the growth of new parts; for on reflection it appears very evident, that a circumstance of a quite opposite nature al-

ways contributes in a conſiderable degree to their accompliſhment.

§ 3. *The Decay of the contiguous ſound Parts, is a neceſſary circumſtance in the cure of Ulcers.*

Thus, though in the healing of every ulcer, whether it be attended with loſs of ſubſtance or not, a growth of new parts, as we have already remarked, generally takes place to a certain degree; yet the greateſt part of the vacancies, which in theſe caſes always occur, is evidently more diminiſhed by the decay or decreaſe of the divided parts that remain, than by any other cauſe. Indeed, the effect with reſpect to a cure, is ultimately the ſame as if all ſuch deficiencies were actually ſupplied with a new ſubſtance: for, if the cavity of an ulcer be diminiſhed, or even entirely annihilated, by the ſubſiding or waſting away of the parts with which it is ſurrounded, there is then no kind of neceſſity for the formation of others: And, in effect, cures are often obtained, eſpecially in old people, without

any

any evident growth of parts whatever, and this too in very considerable and extensive ulcers.

This part of nature's process in the cure of ulcers, is to a certain degree obvious even in the smallest sores: but the larger the ulcer, the more evident always it appears; and particularly it becomes exceedingly remarkable in the cure of that very extensive ulcer, which commonly remains after the amputation of any of the extremities, especially of the thigh.

In these instances, indeed, there is never any considerable formation of new parts observed to take place; and the cure always advances, just in proportion as the skin is allowed to contract by the wasting away or decrease of the parts which it surrounds: and such a decay, or diminution of bulk, is not, in any of these cases, confined to one set of parts only; but extends equally to all, the bones perhaps only excepted.

Thus, after the cure of a stump, every vessel, even the largest, is almost entirely obliterated for a considerable extent: at least

leaft nothing is found to remain of them but the thin membranes that compofed their coats, now fhrunk into very fmall inconfiderable cords: the fibres of the different mufcles are, in the fame manner, greatly diminifhed; and the cellular fubftance feems frequently to be almoft entirely annihilated. I have happened to meet with feveral opportunities of diffecting the ftumps of patients after death, and the appearances were uniformly as is here related.

There is yet another cafe of ulcer, in which the cure feems with ftill greater probability to be chiefly effected by the influence of the fame caufe. In a large incifed wound, with little or no lofs of fubftance, its edges, in the courfe of twenty-four hours, become greatly fwelled and tumefied; they are thereby kept at a confiderable diftance from each other, and the whole exhibits the appearance of a large foul ulcer. In this fituation it would remain for a confiderable length of time, if it fhould either be neglected, or treated with acrid

acrid irritating applications: As soon, however, as by warm emollient poultices, and other proper dressings, a free discharge of pus is obtained, the inflammation diminishes—the swelling of the sides of the ulcer subsides—and the sore gradually contracts to such a degree, that its edges, which before were much separated, are now brought near to one another.

The same phenomenon is observable, in a remarkable degree, in the cure of every ulcer attended with much inflammation; where a great part of the treatment consists in removing the pain, irritation, and swelling, which, in such cases, always take place.

Every small boil is found to exhibit the same appearances: On a boil being laid open, an ulcer is always left, and the cure depends chiefly on the removal of the inflammation and swelling of the surrounding parts.

These, however, it may be said, are only instances of preternatural swellings, perhaps originally excited by the presence of some

ſome acrid irritating cauſe; upon the removal of which, they may be expected to ſubſide, and the ulcers occaſioned by them to contract and heal. The ſame circumſtance, however, has been ſhown to take place even with reſpect to the ſubſtance of ſound parts; particularly, as we have already remarked, after the amputation of a member; the blood-veſſels, nerves, and muſcles, in all ſuch caſes, being conſtantly found to ſuffer a very conſiderable decay.

The ſame thing is likewiſe known to happen in all deep tranſverſe wounds that penetrate through the different muſcles, ſo as to reach the bone; for a cure in theſe caſes, is ſeldom to be obtained by the firſt intention, eſpecially when any loſs of ſubſtance has been produced. In the cure of ulcers which remain after ſuch wounds, an evident decay of the extremities of the divided parts always takes place: and what ſhows it in a remarkable manner is, that, in all ſuch caſes, the vacancies occaſioned by the wounds are never ſo large and conſpicuous immediately after the cure, while the

the patient yet remains lean and emaciated, as they afterwards become, when, in the course of time, by the recovery of health and appetite, all the parts of the body, and, among others, those which have been divided, come in a great measure to regain their former bulk; and when, accordingly, all vacancies that have been occasioned by such wounds, appear to be more considerable.

When, indeed, a wound penetrates only into the cellular membrane, or does not entirely divide the muscles, the cavity produced by it, does, no doubt, in the course of time, gradually diminish, so as sometimes to disappear altogether. This, however, is in consequence of the parts below extending in their diameters; which, in the other case we have supposed, of a wound with loss of substance penetrating to the bone, never can happen.

This opinion, with respect to the cure of wounds, depending in a great measure upon the decay of the surrounding parts, was first introduced by a very ingenious French practitioner,

practitioner, Mr Fabre: and, like every new doctrine, it has by ſome been denied to have any ſort of influence; whilſt, by others, much more remarkable effects have been attributed to it, than, on examination, it will be found entitled to.

Thus Mr Fabre, and Mr Louis, another ſurgeon of eminence in Paris, aſſert, that wounds of every kind which do not heal by the firſt intention, are cured entirely by an affaiſement, as they term it, or a waſting away of the extremities of ſuch parts as have been divided; and they abſolutely affirm, that there never does occur any laſting production of new parts in the healing of ſores *.

Such an aſſertion, however, is entirely contradictory to daily experience; and ſeems to be merely the conſequence of a lively imagination entering keenly into the ſupport of a favourite doctrine: for, altho' it will readily be allowed, that a very conſiderable part of the cure in every ulcer, eſpecially in old people, is effected by the cauſe

* Vid. Memoires de l'Academie de Chirurgie, tom. 4.

cause we have assigned; yet few practitioners will, probably, deny, that in many instances, particularly in young people, very considerable productions occur of that vascular substance we have formerly described; insomuch that it is sometimes a very troublesome matter to suppress such excrescences, so as to keep them within proper limits.

As a farther confirmation that a growth of new parts does, to a certain degree, frequently occur, many very remarkable instances might be mentioned from different authors, of deep and extensive losses being almost entirely repaired by nature. It would here, however, be very foreign to our purpose, and especially as it does not appear to be in the least necessary; for by every candid practitioner it must be acknowledged, that such occurrences are by no means uncommon.

Though the opinion, however, cannot be admitted in such an extensive latitude, as those who introduced it might incline; yet, from the several arguments we have

advanced, it will appear to have at leaſt a conſiderable ſhare in the cure of every ulcer; and from all that has been ſaid with reſpect to it, this inference, we think, may be drawn, that although the generality of ulcers are ſupplied with a ſpecies of new production, yet to a certain extent the cure of all ſuch diſorders depends very much upon the contraction of the ſurrounding ſkin, in conſequence of the parts lying below it ſubſiding or diminiſhing in bulk.

This, when there has been any preternatural tumefaction induced, as frequently happens in a particular manner in ſcrophulous ſores, is effected merely by the diſcuſſion of ſuch ſwellings; but in others that are attended with a real loſs of ſubſtance, the extremities of even the ſound remaining parts, muſt, as we have already remarked, undergo very conſiderable diminutions.

§ 4. *Of the Effects of Compression in the Cure of Ulcers.*

FROM this view of the matter, a very material piece of practice, which we find to have been long ago known to practitioners, but which of late has, for no evident reason, however, been almost entirely laid aside, comes to be clearly accounted for: I mean, the use of the laced stocking in ulcers of the legs; which, by Wiseman and many other old writers, is much recommended, with a view to prevent those œdematous swellings to which patients with such disorders are commonly liable.

With this view, the laced stocking is no doubt to be considered as the most effectual remedy; but it has, in all such cases, I am persuaded, been much more frequently of service, by serving to promote that diminution of the adjoining parts, which we have already shown to be so necessary for the cure of every ulcer: As in this respect it acts merely by the degree of compression

 afforded,

afforded, it must evidently prove equally serviceable in whatever part of the body sores may be situated; and accordingly, I have constantly found, that ulcers in the arm, and wherever a continued gentle pressure could be applied, have received more benefit from an application of this kind, than from all the other remedies usually employed.

As it is the pressure therefore only, which in such cases is wanted, it is most conveniently made, both in the legs and elsewhere, by means of a pretty broad roller applied spirally, if necessary from the extremity of the member, to a little above the diseased part; but when no œdematous swellings occur, it generally proves sufficient to make the roller pass from about three inches below the sore, to two or three inches above it. In ulcers of the legs the roller should commence at the toes, and should be carried to the knee joint, or at least to two inches above the sores: and, even in ulcers of the thighs, if any œdematous swelling occurs in the leg, as is often the case, the bandage

bandage should commence at the toes; but when the leg is altogether free from swelling, this is seldom found to be necessary. By means of a roller, compression can be made more directly on any particular part, than with the laced stocking; it is more conveniently applied, and it generally gives less uneasiness to the patient. It is likewise more easily obtained: for the difficulty of fitting a laced stocking, with that exactness which this application requires, is so great, that very few tradesmen are capable of making it; whereas a roller may at all times be easily procured.

Rollers, for this purpose, ought to be about two inches and a half broad; and on experience it is found, that they answer better when made of cotton, or thin flannel of the Spanish or Welsh kind, than of any other article. This not only keeps the parts warmer than linen, which, in ulcers of every kind, proves commonly serviceable; but the softness and elasticity of the flannel prevents it from fretting and galling the parts to which it is applied; an incon-

venience frequently experienced from linen bandages.

In the application of ſuch a bandage, it will readily be underſtood, that it ſhould be done in ſuch a manner as particularly to ſupport the ſkin, ſo as to occaſion as near a conjunction as poſſible of the edges of the ſore. For as it is well known, that there never occurs any production of new ſkin, or even elongation of the old, as much as can be eaſily ſaved ſhould always be brought to cover ſuch parts as by its retraction may have been denuded; for all ſuch as remain uncovered, have afterwards for their protection a thin ſcarf-ſkin only, which, in ſtrength, as well as in every other circumſtance, is greatly inferior to the cutis vera.

From a due attention to this point, much more aſſiſtance is to be obtained in the cure of wounds and ulcers than is commonly imagined: for, in by far the greateſt number of ſituations, every wound not attended with much loſs of ſubſtance may be brought to heal by the re-union of the divided

vided parts; which, in every case that can occur, is by much the most eligible method of cure. When this can be properly accomplished immediately upon a wound being inflicted, it should always be done: but very often, when that precaution has either at first been neglected, or when it has not then been practicable from a too great retraction of the parts, it may frequently be effected afterwards in a later period of the disorder.

For, in large wounds, when in the space of about fourteen days a full suppuration has come on, and the inflammation which originally took place has in a great measure subsided, the sides of such wounds, or ulcers as they then are, may by proper compression be either entirely united, or at least brought so far to approach one another, as greatly to diminish any vacancy that at first took place; a circumstance which renders the cure of such complaints much more short and easy than it is otherwise found to be.

In the application of compression, for the

the purpose we have mentioned, it will be understood, from what we have said already, that it is not to be employed in any species of ulcer while any considerable degree of inflammation remains; but as soon as that symptom is pretty much removed, it may always be put in practice with safety.

The remedy of which we are now speaking, namely, compression, proves so generally useful in the cure of ulcers, that after the inflammatory stage of sores is over, it ought in, perhaps, every instance to be employed: Cures may no doubt be effected by other methods; but I will venture to say, that in the most troublesome of all sores, habitual ulcers of the legs, more lasting cures may in general be obtained by a proper application of pressure, than by any other means with which practitioners are as yet acquainted.

The other most remarkable part of the process of nature in the cure of ulcers, consists, as we have already observed, in the formation of a certain kind of new substance;

ſtance; the production of which we in ſome meaſure attempted to explain, by ſuppoſing it to conſiſt in an extenſion of the divided veſſels, with a conſiderable increaſe of cellular ſubſtance. This, in a ſound healthy ſtate, appears, in every ſore, in the form of an infinite number of very ſmall tubercles, of a bright, freſh, red complexion, and in general of a tolerably firm organiſation.

As, in diſeaſed ſtates of the body, theſe tubercles or granulations put on very different appearances, according to the particular nature of the complaint with which they happen to be connected, ſuch peculiarities as are thereby occaſioned in the ſeveral ſpecies of ulcer enumerated in the enſuing ſections will be all particularly taken notice of; as will likewiſe the various methods of aſſiſting nature, not only in the correction of the diſeaſed ſtates of ſuch productions, but in promoting a firm and healthy growth; for although this is chiefly to be conſidered as the work of nature, yet art in different circumſtances is fre-

quently able to afford her conſiderable aſſiſtance.

Though the means neceſſary for this purpoſe will be afterwards particularly pointed out, it will not be improper, in the firſt place, to make a few obſervations with reſpect to their general tendency, ſo that the operation of all of them may be then more readily underſtood.

§ 5. *Of the Advantages to be obtained from Art, in the production of Granulations in Sores.*

THE principal advantage which in this reſpect accrues from art in the cure of ſores, is the removal of ſuch cauſes as tend to retard the natural exertions of the ſyſtem; and although the different obſtructions which nature meets with in her progreſs are exceedingly various, yet they may all with propriety enough be reduced to two general heads, namely, to ſuch as may be conſidered entirely as of an internal nature, and to thoſe again which operate merely as external or local cauſes.

Of

Of the former kind are, every general diſorder to which the conſtitution is liable; as it is by experience found, that a ſound healthy ſtate of the ſyſtem only, is capable of producing proper granulations.

Thus the cure of ſuch ulcers as occur in lues venerea, ſcrophula, and ſcurvy, can never be properly effected unleſs the general affection of the habit be firſt corrected.

A low emaciated ſtate of the ſyſtem too, proceeding either from a very poor diet, or from immoderate evacuations, is found to be very prejudicial to the growth of new parts: for, as the ſupply of ſuch accidental loſſes as occur in ſores, muſt render it neceſſary to ſupply the ſyſtem with a larger proportion of nutritious matter than is requiſite when there are no loſſes or deficiences to be repaired, if a patient in ſuch a ſituation be kept upon a low allowance in point of diet, and eſpecially if at the ſame time the diſcharge from the ulcer is conſiderable, the repair of any deficiences muſt, in ſuch circumſtances, it is evident, go on much

much more ſlowly than when the contrary of theſe occur. And in fact we find, though a very plethoric habit of body, with a full allowance of heating nouriſhing diet, is not proper for the cure of any kind of ſores; yet that an emaciated ſtate, and a low debilitating regimen, prove equally prejudicial.

A middle courſe, therefore, ſhould in all ſuch caſes be obſerved, and the patient ought to be kept in a ſituation at leaſt not much more reduced than that of his ordinary or natural health. But this circumſtance muſt in a great meaſure be regulated by the particular exigencies of every caſe: for, in ſome patients of a highly inflammatory diatheſis, every ſcratch almoſt is apt to inflame and become troubleſome; ſo that, when ulcers of any magnitude occur in this ſtate of the ſyſtem, it is often neceſſary to keep the patient on a very low allowance.

Others, again, of a contrary habit of body, who have been much reduced, and who have no particular tendency to inflammatory

tory complaints, very frequently bear, and receive much benefit from, more nourifh-ing foods than they were formerly accu-ftomed to; fo that it muft always depend on the judgment of the practitioner, to point out fuch a regimen as may feem beft fuited to the particular fituation of every patient.

The local obftructions, again, which oc-cur to the formation of new parts in ulcers, are of various kinds: but they may all be reduced to two general divifions; namely, to fuch as act folely in a mechanical man-ner by exciting irritation; and thofe that are evidently of a corrofive nature.

From daily experience, it is found, that granulations in fores, are, cæteris paribus, always moft quickly formed when the part is kept entirely free from pain; and, when duly attended to, the reafon of this ap-pears fufficiently obvious. For whatever proves the caufe of much uneafinefs, muft excite in the extremities of the divided vef-fels, as irritation does in every fenfitive part to which it is applied, a preternatural degree of action or ftricture; which is a

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ſtate entirely oppoſite to what we have ſhown to be the moſt favourable for the production of new parts; for as this very probably depends, as we have elſewhere remarked, on an elongation of the divided veſſels, the more eaſy and lax theſe are preſerved, the more readily always will ſuch an extenſion advance.

And we do accordingly find, that whatever tends to keep up any conſiderable inflammation in ſores, has a certain effect in putting a total ſtop to the production of granulations.

Hence the neceſſity of removing from wounds and ulcers, every extraneous body, or whatever tends to produce irritation; and from the ſame circumſtance is accounted for, the great advantage of dreſſing ſeldom, and of uſing mild ſimple applications, inſtead of following the practice which formerly prevailed of dreſſing much more frequently, and that too with very complex irritating ointments and waſhes.

The other ſet of local cauſes that tend to obſtruct the formation of new granulations,

tions, and which were ſaid to be of a corroſive nature, are chiefly all thoſe vitiated diſcharges, which, by neglect or improper management, are ſo apt to occur in every ulcer. For, almoſt every kind of matter afforded by ſores, that differs much in its nature, either in colour or conſiſtence, from mild and good pus, poſſeſſes conſtantly a greater or leſs degree of acrimony or cauſticity; which in ſome caſes is ſo very remarkable, that not only the granulations are corroded and prevented by it from riſing, but even the neighbouring ſound parts are often greatly injured.

In all ſuch diſorders, the principal intention to be kept in view, is the correction of this acrid ſtate of the matter, whilſt at the ſame time we attempt to convert it into what is termed laudable pus; the ſeveral means for effecting which will afterwards in the different ſections be particularly enumerated.

Theſe different obſtacles to the formation of granulations being at laſt removed, nature will always, as far as poſſible, carry on

on their formation; and when, in due time, ſuch vacancies as occur in ſores, are, either by their means, or by the effect of compreſſion, or by both, as much as may be, ſupplied, the only remaining part of the cure, as we formerly remarked, is the formation of a cicatrix. This, too, is commonly, in a great meaſure, effected by nature; but it can often be conſiderably promoted by the uſe of proper applications.

Whilſt any deficiences in ſores remain to be filled up, and whilſt the parts are for this purpoſe ſtill ſhooting and extending, the very mildeſt applications, it was remarked, are the moſt proper; but, when the loſs of ſubſtance has either been repaired entirely, or to ſuch a degree as the ſtrength and other circumſtances of the patient will permit, thoſe applications, which in the extending ſtate of the veſſels would have been prejudicial, now become proper and neceſſary.

Thus, all the mild ſtyptic powders and waſhes, by contracting or corrugating the extre-

extremities of ſuch veſſels as have been divided, and by producing an exſiccation of that inorganic cellular ſubſtance in which theſe are enveloped, tend to induce over the ſurface of ſores, that delicate thin covering termed Cicatrix; which, though it is at firſt always very tender, yet in courſe of time it commonly acquires greater ſtrength, by a farther addition of thickneſs, from that ſame cellular membrane which at firſt contributed to form it.

Having premiſed theſe general obſervations with reſpect to the manner in which the cure of ſores ſeems to be effected, and which apply in a great meaſure to every ſpecies of the diſorder, we now proceed to the more particular treatment of the ſimple purulent ulcer.

§ 6. *Remarks on the Indications of Cure, and on the Remedies neceſſary in the Treatment of the ſimple purulent Ulcer.*

In the cure of this ſpecies of ulcer, as there is very little inflammation, and no pre-

preternatural ſwelling ſuppoſed to take place, but merely a vacuity, either from a real loſs of ſubſtance, or from a retraction of parts ſimply divided, the diſcharge at the ſame time being of a mild purulent nature; the only indications that occur, are,

1*ſt*, To diminiſh, as much as poſſible, any vacancy the ulcer may have occaſioned; and,

2*d*, To promote the formation of a cicatrix.

For the more effectual accompliſhment of the firſt of theſe, the concurrence of two different circumſtances is requiſite; namely, The formation, to a certain extent, of new granulations; and the diminution or decay of ſuch parts as ly immediately contiguous to the ulcer.

We have formerly ſhown, that either a conſiderable degree of inflammation, or the preſence of any acrid corroſive matter, are both exceedingly detrimental to the production of new parts; ſo that this part of the cure ought to conſiſt entirely, or

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at leaſt chiefly, in ſuch a treatment as tends moſt effectually to the prevention of theſe cauſes.

With this view, the firſt circumſtance to be attended to, is, to avoid the uſe of the ſeveral warm gums, balſams, and ſpirituous tinctures, as we find recommended in every caſe of ulcer, by all the older writers, and as is ſtill continued by many of the modern foreign practitioners.

For although, in ſome ſpecies of ulcers, different articles of this kind may be uſed without much inconvenience, and in certain circumſtances may ſometimes even be of ſervice; yet, in every caſe of ſimple ulcer, they always do miſchief, and in the treatment of ſuch ſores ſhould certainly be laid aſide; as ought alſo every application that can occaſion much pain or irritation: for whatever has this effect, muſt always increaſe the inflammation; and, conſequently, for the reaſons we have formerly given, muſt neceſſarily retard the cure. Even the common baſilicon and linimentum Arcæi of the ſhops, are, for the

ſame reaſons, improper; for every ointment with any large proportion of roſin or turpentine, always irritates very conſiderably.

The only advantages which, in ſuch caſes, ought to be looked for from the uſe of any ointment, ſhould be, its allowing the different dreſſings to be renewed with leſs pain than they otherwiſe could be: and hence a compoſition of the blandeſt materials, is, for ſuch purpoſes, preferable to every other.

In this view, any ointment ſimilar to the unguentum cereum of the Edinburgh Diſpenſatory anſwers exceedingly well: It is prepared with pure white wax, ſpermaceti, and freſh olive-oil, without any other addition.

The quantities of each of the articles, as there preſcribed, are, four ounces of wax, three ounces of ſpermaceti, and a pound of oil; a compoſition which forms an ointment of a very proper conſiſtence, and which ought to be kept in every ſhop, as the

the moſt uſeful dreſſing for all the more ſimple kinds of ulcers.

In ſuch ſores as we are now treating of, an ointment containing a proportion of any of the ſaturnine remedies, is ſometimes found to prove uſeful; and as Goulard's cerate is a very neat preparation of this kind, we think it right to communicate the preſcription he gives for it.

Take four ounces of refined wax, and one pound of oil; and keep them over a ſlow fire till the wax is melted, taking care to ſtir them gently. Having previouſly mixed four ounces of the extractum ſaturni, with ſix pounds of water, add it by little and little to the wax and oil, now cooled in a veſſel of a proper ſize *. Let them be well incorporated together with a wooden ſpatula, always taking care to let the quantity of water firſt put in, be thoroughly abſorbed before any more is added: This cerate may be made ſtronger or weaker, by adding more or leſs of the extract. This, as

* For the preparation of the extractum ſaturni, ſee page 44.

as well as every ointment, ſhould always be prepared in ſmall quantities, as it is of much importance in the treatment of ſores to employ ſuch dreſſings only as are perfectly freſh and free from rancidity.

Pledgits of lint, ſpread thin with either of theſe ointments, are in general applied without occaſioning pain; and the uſe of them in this manner, indeed, is never attended with any kind of inconvenience: for, though all oily applications to ſores have been condemned by ſome, from an apprehenſion of their turning rancid; yet I can ſay, from experience, that under proper management they never become ſo. Nor is it eaſy to ſuppoſe that any ſuch preparation, as theſe we have mentioned, when compoſed of freſh materials, can ever become putrid between the different dreſſings of ſores, which very rarely ought to be more diſtant than twenty-four hours from one another.

The frequent dreſſing of ſores is now very generally, and very properly, condemned; but as practitioners are apt

to run into oppoſite extremes, we find that by ſome it is recommended to renew applications of this kind not oftener than once in five, ſix, or eight days. It rarely, if ever, happens, however, that this can be proper. It affords no advantage to the ſore: for we can aſſert, from frequent evidence of both methods, that an ulcer, except in the lateſt ſtages of it, when the cicatrix is nearly forming, will in general cure more eaſily by the dreſſings being changed daily, than when not renewed ſo frequently; and it is attended with this advantage, that the patient is kept clean, and the air of the apartment in which he lies is preſerved in a more pure ſtate than it ever is by a contrary management. We are therefore clearly of opinion, that although the dreſſings of ſores ought not to be frequently renewed, yet that the contrary extreme would prove ſtill more prejudicial: In hoſpitals eſpecially, where it is ſo difficult to preſerve the air pure and untainted, this is a circumſtance which merits the greateſt attention; more indeed

than practitioners commonly beſtow upon it. The leading circumſtance which ought to direct us in the frequency of deſſings is, the quantity of matter afforded by ſores: No application ſhould be removed till it can be done with perfect eaſe; but whenever there is any conſiderable quantity of matter in the cavity of an ulcer, the dreſſings ought to be renewed daily.

One principal inconvenience ſuppoſed to ariſe from the frequent dreſſings of ſores, is the influence produced upon them by expoſure to the air; but if new dreſſings are ſo prepared as to be immediately applied on the others being removed, every inconvenience from this cauſe may be avoided. This we muſt remark, however, is a point of ſuch importance as to deſerve very ſerious attention; for a too free admiſſion of air to ſores, always interrupts the cure, not only by acting as a powerful irritating cauſe, but by tending to vitiate the nature of the matter diſcharged by them.

Another objection too has been made by different practitioners, to the uſe of unctu-

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ous applications in the treatment of sores, namely, that they are apt to render the parts lax and flabby, so as to prevent the new granulations from being so firm as they otherwise would be.

This I know, indeed, to be the consequence of a long-continued use of warm emollient applications, especially of fomentations and poultices: but an ointment of the kind we have recommended, very thinly spread, never does produce that effect, and it always proves a more agreeable application than dry charpee alone; which, unless the sores to which it is applied are covered with large quantities of matter, always occasions a good deal of irritation, and in some degree is attended with the same effects as gentle escharotic applications; a circumstance that seems to have been well known to many of the old writers on surgery, who frequently recommend dry charpee for suppressing the undue growth of parts, when, in the cure of sores, it happens to be too considerable.

I have long been an enemy to the indis-

criminate ufe of dry charpee or lint in fores. This will appear from the contents of the preceding paragraph, which was publifhed fix years ago, and I never had any reafon to alter my opinion. The effect of cuftom, however, is fo powerful, that it may be long before the ufe of dry lint is fo univerfally laid afide as it ought to be: but, from much experience in matters of this kind, I am clearly of opinion, that a general ufe of it as a dreffing, tends much to retard the cure of ulcers; and whoever will have the refolution of deviating from the eftablifhed practice, and will employ any mild ointment as a common application to fores, will receive much fatisfaction from doing fo. When fpeaking of mild dreffings, I would wifh to have it underftood, that it is in the fimple purulent ftate of an ulcer only, in which much utility is to be expected from them. After all that has yet appeared to the contrary, not only in the writings of many of the ancient authors, but even in thofe of fome modern practitioners, I am perfectly convinced, that, in

in this ſtate of an ulcer, a cure will be more eaſily and more quickly obtained by mild dreſſings, than by any other means: but in the ſloughy foul ſtate of ſome ſores, applications of this kind, it muſt be owned, have little or no effect; and in ſuch circumſtances ſome of the warm irritating dreſſings, to be afterwards pointed out, are the only means from which relief is to be expected.

In all ſuch ulcers, therefore, as we are now ſpeaking of, thoſe pledgits, which, at the different dreſſings, are applied immediately to the ſores, ſhould be ſpread with ſome ſuch ointment as thoſe we have recommended.

The next circumſtance requiring attention in this part of the cure, is to employ ſuch means as may preſerve the matter diſcharged from ſores in its proper purulent ſtate, both with reſpect to colour and conſiſtence; for, unleſs very particular attention be given to this point, the beſt-conditioned matter always degenerates ſooner or later into a worſe kind; and as matter of a real purulent nature is the mildeſt and leaſt acrid diſcharge that ulcers ever afford, every

every precaution ſhould be taken to preſerve a continuance of it in this ſtate.

In the ſimple ſpecies of ulcer now under conſideration, the principal attention which for this purpoſe is requiſite, is the preſervation of a due degree of heat in the part affected. This, in whatever part of the body the diſorder is ſituated, is exceedingly neceſſary; but it is more particularly ſo in the extremities than any where elſe: for the natural heat of theſe parts is not near ſo conſiderable as it is in the trunk and other ſituations where the action of the heart has more influence.

We have formerly ſhown, in the treatiſe on inflammation, how neceſſary a proper degree of heat is for the formation of pus in every caſe of abſceſs: and as it is no leſs ſo in the treatment of ulcers, it ſhould always be very particularly attended to; for, the want of a due regard to this circumſtance alone, very often occaſions the degeneracy of ſimple ulcers into thoſe of much more inveterate diſpoſitions.

Whilſt any degree of inflammation remains

mains in ulcers, the easiest and best mode of applying heat, is by the use of warm emollient cataplasms; but, as soon as the inflammatory symptoms are much abated, these should be immediately laid aside: For, in consequence of the very powerful relaxing properties of warm emollients, a too frequent and long-continued use of them, as we have already observed, is apt to induce too much laxity or want of tone in the parts to which they are applied: And the same purpose may be then answered equally well, by applying over the dressings thick quilted coverings of wool, cotton, or of any such substances as most effectually retain heat.

The good effects resulting from a proper attention to this kind of management, I have on many occasions experienced; and although it may not be of so much importance in cases of simple ulcers merely, as in those of a worse kind, yet even in the slightest that occurs it should never be omitted.

In almost every species of ulcer, poultices are

are found to prove highly uſeful in one part or other of the cure: and altho' in ſuch as are attended with much inflammation, they may no doubt prove ſerviceable by their emollient properties; yet the degree of heat they afford, by its effects in promoting a good ſuppuration, is, I am perſuaded, independently of every other circumſtance, the greateſt advantage they ever produce.

But poultices, when uſed with this intention, unleſs they are much more frequently renewed than they generally are, rather do harm than good; for, in order to obtain all the advantages that may be derived from them, they ſhould be renewed at leaſt every three hours. But this ſubject having been more fully treated of in the eſſay on inflammation, it is not now neceſſary to enlarge farther upon it; for, the ſame obſervations we had then occaſion to make reſpecting the effects of heat in promoting ſuppuration, apply with equal force and propriety here.

Theſe different circumſtances, namely, the

the prevention of irritation by very mild dreſſings, and the preſervation of a proper degree of heat in the part affected, are the moſt certain means both of promoting the growth of new parts, and for obtaining and keeping up a diſcharge of good matter. They ſhould both, therefore, be all along particularly attended to; either till there does not ſeem any farther deficiency to fill up, or till nature appears to have effected as much in the production of a new growth of parts as the circumſtances of the caſe will permit.

The other moſt material part of the firſt indication in the cure of ulcers, is to be obtained, as we already obſerved, by means of gentle compreſſion: and this, it may be remarked, is to be employed at the ſame time, and to be uſed along with the ſeveral applications we have already mentioned; for as ſoon as the inflammatory ſtate of an ulcer is over, and a diſcharge of good matter is induced, ſlight compreſſion by means of a roller, as we formerly recommended, may be immediately applied, and ſhould

ſhould be continued during all the remainder of the cure. It ſhould be applied too, as was then directed, in ſuch a way as not only to produce a gentle preſſure upon the parts immediately ſurrounding the ulcer, but likewiſe to ſerve as a ſupport to the ſkin and other teguments, ſo as to prevent their retraction, which otherwiſe, in large ulcers eſpecially, is very ready to happen.

When, by a proper attention to the moſt material circumſtances in the treatment, and on the neceſſary remedies being continued for a longer or ſhorter period according to the ſize of the ſores and habit of the patient, any loſs of ſubſtance which occurred is at laſt as far as poſſible ſupplied, the next indication of cure comes then to be attended to; and that is, the formation of a cicatrix.

We have formerly obſerved, that a cicatrix is frequently effected by nature alone; but, in many caſes, when every deficiency appears to be even thoroughly ſupplied, yet ſtill a cure is difficult to accompliſh: The ſurface of the ſores remains raw, and

and at the same time discharges considerable quantities of matter. In such cases, it becomes necessary to lay aside the ointment recommended for the preceding part of the cure, and to use one of a more styptic drying nature.

In this view, the unguentum album prepared with ceruss, as is ordered in different dispensatories, answers exceedingly well; better, indeed, I have often thought, than the ceratum e lapide calaminare, so commonly employed as a dry application. Lime-water, too, often proves a very effectual application in this situation of ulcers: By bathing the sores with it once or twice daily, and using the ceruss ointment or common cerate as a dressing, a cure will frequently be effected, when it cannot possibly be obtained by emollients: Ardent spirits, too, will often answer the same purpose, of putting a stop to the discharge afforded by sores in this state, and of drying or corrugating the soft cellular substance upon their surface into a firm cicatrix.

On

On ſome occaſions, again, a proper cicatrix is prevented from forming, by the growth of new granulations being ſo conſiderable as to riſe above the ſurface of the neighbouring ſound parts. In ſuch caſes, it becomes neceſſary to have recourſe to different aſtringent or even eſcharotic applications, of which the moſt effectual among the milder cauſtics is blue vitriol; which, unleſs in very obſtinate caſes, almoſt always proves ſufficient; and when it happens to fail, nothing weaker than the common cauſtic ſtone is ever found to prove effectual.

In ſlight caſes of this kind, indeed, a cure is often effected by the uſe of dry charpee alone; a pretty tight bandage being at the ſame time applied over all.

This, we muſt obſerve, however, is a ſituation of a ſore which frequently proves more perplexing and troubleſome than any other part of the cure: for it often happens, even in the moſt healthy conſtitution, and when the preceding part of the cure has gone very properly on, that a cicatrix cannot

cannot be induced, and the granulations newly formed continue raw, and do not ſhow any tendency to heal: In this ſituation, when the means we have adviſed do not prove effectual, compreſſes moiſtened in ſtrong ardent ſpirits, as we have mentioned above, particularly in French brandy, being applied under the roller, will often accompliſh a cure; or ſpirits uſed in this manner, may be alternated with tincture of myrrh, or with a ſolution of blue vitriol in water: a practice which in different inſtances I have found to ſucceed, when the means uſually employed have all failed.

In the preceding obſervations we have enumerated ſuch local applications as have been found to be moſt effectual in the cure of ulcers; but there are ſome circumſtances, which, though of a more general nature, are yet equally neceſſary to be attended to.

In every ſpecies of ulcer, even in thoſe of the moſt ſimple nature, reſt of body, eſpecially of the part affected, is particu-

larly requiſite: inſomuch, that, unleſs this circumſtance be attended to, all the applications that can be uſed, prove commonly of little importance. In diſorders of this kind, too, occurring in the lower extremities, the affected limbs ſhould be always kept, as much as poſſible, in a horizontal poſition, as being the poſture which proves moſt favourable for the circulation of the fluids.

Reſt and an horizontal poſture, have, by almoſt all practitioners, both ancient and modern, been looked upon as abſolutely neceſſary for the cure of ulcers in the lower extremities. In ſome late publications, however, it is aſſerted, that reſt is ſo far from being neceſſary in ſuch caſes, that a cure is juſt as eaſily and certainly performed whilſt patients are going abroad, as whilſt under the ſtricteſt confinement.

In ſome very ſlight ulcerations, this may ſometimes be the caſe; and, with the aſſiſtance of a pretty tight bandage or laced ſtocking, applied ſo as to ſupport the parts properly, even ſores of a worſe kind may

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be frequently cured, and the patients at the same time be allowed to take gentle exercise. But, in general, so far at least as my experience goes, the regulations upon this point, enjoining strict confinement in every ulcer of the extremities, as handed down to us by all the ancient writers, appear to be very well founded; for, according as they are more strictly attended to or not, the cure commonly advances quickly or otherwise.

It often happens, indeed, as we have said above, that ulcers of even a bad nature, are cured without any assistance from confinement or a horizontal posture of the limb. This I have frequently met with; and at this time I have different cases under my care, of ulcers going on towards a cure, whilst the patients are daily going abroad. But their being allowed to take this liberty, has always proceeded from necessity; as there is nothing of which I am more perfectly convinced, than that ulcers on the lower extremities will cure sooner, more easily, and to more real ad-

vantage, whilſt the limb is preſerved in a horizontal poſture, than they will do whilſt the patient continues to take exerciſe. But when the circumſtances of patients prevent us from receiving the advantages to be derived from confinement, we are reduced to the neceſſity of attempting the cure of ulcers by other means; and, in ſuch circumſtances, nothing anſwers ſo well as preſſure applied by a roller in the manner we have uniformly mentioned in this, as well as in the former editions of this work.

As confinement, during the cure of ulcers on the legs, proves always inconvenient, various means have been propoſed for rendering it unneceſſary; and it has not only been ſaid, that cures may be performed without any aſſiſtance from confinement or a horizontal poſture, but by ſome it is alleged, that they are even prejudicial *.

We have already remarked, that ulcers of the legs may be healed while patients are daily

* This has been aſſerted by other writers; but it has been more fully enlarged upon of late, in a very ingenious Treatiſe upon ulcers of the legs, by Mr Underwood of London.

daily going abroad; and especially if a due compression be continued. But, notwithstanding all the arguments adduced in favour of the practice, I have not yet heard of any which ought to set aside the opinion we have endeavoured to inculcate upon this point, and which, indeed, has in all ages been allowed to be well founded; namely, that a horizontal posture is highly proper in the cure of every ulcer of the lower extremities. The means proposed by Mr Underwood, I have tried on various occasions; they have sometimes proved successful: but, whatever may have been the case with others, they have never, in the course of my experience, effected cures so easily and speedily, or which have proved so permanent, as the means we have recommended, of employing mild dressings to simple sores, together with a horizontal posture in every ulcer of the leg.

In almost every case of ulcer, particular directions have been given by practitioners, with respect to regimen; and, in general, a low spare diet has been prescribed. Such

regulations, however, when carried to a great length, moſt conſtantly do miſchief: for they ſeldom fail to relax the habit conſiderably, and to produce other diſagreeable effects, particularly on the nature of the matter diſcharged from ſores.

The only attention, which, in this reſpect, ſeems to be neceſſary, is to guard againſt all exceſs in eating or drinking; for whatever has the effect of producing merely a ſlight temporary fever with any additional inflammation, proves, in ſuch caſes, always very prejudicial: But, in place of a diet much lower than uſual, as is moſt frequently recommended, a more full and nouriſhing regimen, than the patient even in a ſtate of health has been accuſtomed to, is often found to prove ſerviceable.

For, the diſcharge of purulent matter proves always ſo very debilitating, that in large ulcers, when great quantities of it are afforded, this circumſtance alone generally weakens the patient too much, if the conſtitution be not at the ſame time enabled to ſupport it by a proper diet. Indeed, it is

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constantly found, that the cure of such sores goes on much more easily when the patient is kept in his usual habit of body, than when his system is much reduced by a very low allowance: nay, I have had many opportunities of observing, that ulcers even of the worst kinds, are soon brought to heal by the use of a nourishing diet alone, after they have obstinately resisted all the usual applications and remedies.

For the same reasons that a low regimen is condemned, the use of purgatives, and in general whatever tends to weaken the constitution, is improper. Nor does it ever happen, if proper attention be paid to the different circumstances we have pointed out, that internal medicines of any kind are necessary in this species of ulcer: I know that it is a frequent practice to give medicines of different kinds, particularly bark, nitre, and cooling purgative salts, in this as well as in every variety of ulcer. But in the simple purulent ulcer, of which we are now treating, I never find it necessary to employ any remedy directed to the

ſyſtem at large: The diſorder is merely local, and local applications ought to be ſolely depended on for the cure. When, indeed, the matter of a ſore is in too great quantity, and eſpecially if it be thin and acrid, bark, ſteel, and other tonics, are frequently employed with advantage: But when the local applications we have already recommended do not prove effectual in correcting this, it will commonly be found to originate from ſome general diſeaſe of the conſtitution: a different ſpecies of ulcer will be therefore produced, and other remedies will conſequently be neceſſary.

SECTION III.

Obſervations on the ſimple vitiated Ulcer.

THE ſimple purulent ulcer we have deſcribed in the preceding ſection being the mildeſt, and, if the expreſſion may be

be uſed, the moſt natural ſpecies of the diſorder that can occur in a healthy body, every deviation from it might be conſidered as a vitiated ſtate. But thoſe we mean to comprehend under the denomination of Vitiated Ulcers, are ſuch as differ from it chiefly in the appearance and nature of the diſcharge which they afford. All thoſe which are diſtinguiſhed by any remarkable peculiarity of the ſolid parts, as they require each of them a diſtinct and ſeparate method of treatment, ſo they are allowed, as we have formerly remarked, to conſtitute ſo many diſtinct ſpecies of the diſorder; and they will, accordingly, be all taken notice of ſeparately.

Whereas, thoſe which differ from the more ſimple ulcer, only or chiefly in the nature of the diſcharge, as they require all nearly the ſame method of cure, and as theſe differences are merely accidental, they have not, for theſe and other reaſons, as we have already remarked, been allowed to have any influence in forming diſtinctions.

§ I.

§ 1. *Of the Symptoms, Cauſes, and Prognoſis of the ſimple vitiated Ulcer.*

THE moſt common appearances in the matter afforded by ulcers, when it deviates from the more natural ſtate of purulent matter, are,

1. A thin, limpid, ſometimes greeniſh diſcharge, termed Sanies.

2. A ſomewhat red-coloured, thin, and generally very acrid matter, termed Ichor. And,

3. A more viſcid glutinous kind of matter, called Sordes.

This laſt, too, is frequently of a browniſh red appearance, ſomewhat reſembling the grounds of coffee, or grumous blood mixed with water. They are all of them much more fetid than purulent matter, and none of them are altogether free from acrimony; but that which has generally been termed Ichor, is by much the moſt acrid of any of them, being frequently ſo ſharp and corroſive as to deſtroy large quantities of the neighbouring parts.

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In consequence of the acrimony of the different matters we have mentioned, the ulcers discharging them do not fill up with fresh granulations, but waste away more and more: and, instead of a red healthy complexion, they have either a dark brown, or sometimes a black sloughy appearance. The pain in all of them is considerable; and is generally more or less so, according as the matter afforded is more or less corrosive.

As causes of this species of ulcer, may be mentioned all such as we have taken notice of in the preceding section, namely, wounds in general, burns, bruises, and in short all those which were enumerated as causes of the simple purulent ulcer; for even that species of the disorder, however mild it may have been, if it happens to be either neglected, or to be dressed with improper irritating applications, very readily degenerates into the vitiated ulcer of which we are now speaking.

It is not improper here to observe, too, that such changes in ulcers, from the simple to

to thoſe of a more inveterate kind, happen much more frequently in particular parts than in others: Thus, from the tendons and aponeurotic expanſions of muſcles not affording that ſpecies of ſerum neceſſary for the formation of good pus, ſuch ulcers as are ſeated in theſe parts commonly prove much more troubleſome and inveterate than thoſe which are ſeated in the cellular membrane, where a plentiful ſecretion of a fluid proper for this purpoſe generally takes place.

In ulcers of the kind which we are now conſidering, that are merely local, and that are not connected with any diſorder of the ſyſtem, when they have not been of long duration, and more eſpecially when they occur in young healthy patients, the prognoſis ſhould always be favourable. But, when the oppoſite circumſtances take place; when the patient is very old; the ulcer extenſive, inveterate, and of long ſtanding; the prognoſtic ſhould always be very doubtful.

§ 2.

§ 2. *Of the Cure of the simple vitiated Ulcer.*

We have already remarked, that the bad qualities of the matter afforded by ulcers, proceed, in general, from some particular affection of the solids or secreting organs in the parts diseased, whereby such kinds of fluids are separated from the blood as cannot be converted into good pus. The nature of this affection, too, we have endeavoured to explain; and, from the several arguments formerly advanced, it appears evidently to consist in different degrees of inflammation, or of increased action in the vessels of the parts diseased, occasioned by one or other of the several exciting causes which give rise to ulcers.

Independently, too, of what was formerly advanced in support of this opinion, it seems to be farther confirmed by the nature of the different remedies found to be most effectual in the cure of such disorders, which are chiefly of that kind which have evidently very powerful effects in easing pain and abating irritation.

Thus,

Thus, warm emollient fomentations and cataplaſms, in a very ſhort ſpace, ſometimes even in the courſe of twenty-four hours, will frequently not only give the patient a great deal of relief from pain, but will even produce a conſiderable amendment in the nature of the diſcharge; and, by being continued for a longer time, till the tendency to inflammation is thoroughly removed, they will, very frequently, without any farther aſſiſtance, convert the matter, however bad it may have been, into a natural and good pus.

The moſt proper method of proceeding, therefore, in the treatment of all ſuch ulcers, is to foment the parts three or four times a day, for half an hour at leaſt each time, with an emollient decoction; and then to apply pledgits of the wax-ointment, as was formerly recommended, with warm poultices over all, to be renewed as frequently as they turn cold.

In ſores of this nature, when the pain is conſiderable, as nothing more quickly promotes the cure of ſuch diſorders than the

the removal of pain, it frequently becomes neceſſary to have recourſe to opiates, which, in ſuch circumſtances, are often uſed with much advantage: and when they are employed, they ſhould always be given in ſuch doſes, and theſe ſhould be as frequently repeated, as the violence of the pain may indicate.

The habit of body muſt, in the mean time, be alſo attended to, and particular directions given with reſpect to it, according to the immediate ſituation of the patient. Thus, when, from a long continuance of an ulcer, or from any other cauſe, the conſtitution has been much reduced, we ought, by a full allowance of diet, to endeavour to repair it; and when, on the contrary, the patient is of a full plethoric habit, and has formerly been liable to inflammatory affections, it then becomes proper to keep him rather upon a low regimen.

In ulcers of this kind, which occur in the former of theſe circumſtances, namely, in low reduced habits, the Peruvian bark

proves

proves often efficacious: in ſuch ſores, indeed, it acts frequently as a very powerful remedy, and particularly in effecting a change for the better in the nature of the diſcharge.

The bark, however, in order to produce ſuch an effect, requires to be given in much larger quantities than are commonly exhibited: It is ſeldom given in any complaint of this kind to a greater extent than three or four doſes in the day, of a ſcruple or half a drachm each; whereas, when any remarkable advantages are expected from it, ſix or eight doſes of a drachm each ſhould always be given in this ſpace of time; and, in ſuch quantities, it ſeldom fails of proving a very effectual remedy.

It muſt be obſerved too, that, in the manner we have directed, very little more of the remedy ever becomes neceſſary, than what, upon the whole, is commonly exhibited in the uſual way of giving it in ſmall doſes; for with large doſes, and theſe being frequently repeated, more real advantages are in general obtained in the courſe of

of twelve or fourteen days, than are usually experienced from its being continued a great number of weeks in small doses.

In such cases of ulcers, however, as occur in inflammatory constitutions, and in plethoric habits, the bark must be used with greater caution; and, in these circumstances, indeed, it should seldom be given to any extent, till the tendency to inflammation has in a good measure disappeared.

The several circumstances in the cure which we have enumerated being all duly attended to, whilst at the same time the part affected is kept at rest and in a proper posture, it rarely or never happens that the discharge is not soon converted into good pus; and when once this is accomplished, every other appearance of the sore, in a very short time, generally changes for the better. At least this is commonly the case, unless the ulcer happens to be connected with some general disorder of the system; a circumstance we do not here suppose to occur, and which would constitute, indeed, a species of sore diffe-

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rent from that which we are now conſidering.

As ſoon as the diſcharge is converted into a proper ſuppuration, the moſt material part of the cure is thus, in a great meaſure, effected: for the parts being no longer corroded by a conſtant immerſion in an acrid matter, but, on the contrary, being covered by the moſt natural balſam that can be applied to them, they commonly ſoon put on a red healthy appearance; and new granulations being now at liberty to form, any loſs of ſubſtance which occurred, comes as far as poſſible to be ſupplied, and this in a longer or ſhorter ſpace of time, according to the depth and ſize of the ulcer, ſituation of the part affected, and the age and habit of the patient.

Sores of this kind being by theſe means reduced to the ſtate of ſimple purulent ulcers, are to be treated during the remainder of the cure exactly in the manner we have directed in the preceding ſection, that is, with very mild dreſſings; at the ſame time that due attention is paid to the pre-

preservation of a proper degree of heat in the parts, together with the use of a gentle compression, from the time of the inflammatory symptoms having been thoroughly removed.

It frequently happens, however, in this, as in every species of ulcer of long standing, that although the parts, by proper management, may have been brought to put on a very healthy appearance; and although the discharge has, from a very bad sort of matter, been converted into the best kind of pus; yet still the sore cannot be got to cicatrise, but continues to discharge as plentifully as ever.

When, in such a situation, the different directions we have given in the last section with respect to the cicatrisation of sores, do not succeed, as may frequently be the case, an issue of a proper size, inserted in any convenient situation, will often contribute more towards the accomplishment of a cure, than all the applications generally used in such cases.

And, indeed, in old habitual ulcers of every kind, nothing but the introduction of adequate drains will ever produce permanent cures: for although, by the use of drying astringent applications, the sores may be covered with a thin cicatrix or scarf-skin; yet, in cases of this nature, such cures are seldom of long duration.

For, independently of the danger which arises from the practice of healing old drains before new ones are inserted in their place, any cicatrix obtained by means of astringent applications, being very weak, generally soon bursts open, in consequence of that redundancy of fluids which must always be induced in the system by the retention of that considerable quantity of serum, which for a long time the constitution had been accustomed to throw off, for a supply of pus to the ulcers.

In all such ulcers, therefore, and indeed in every species of the disorder that has been of long standing, the first part of the cure ought to consist in the introduction of an issue of such a size as may afford a quantity

tity of matter in some degree proportioned to that which the sore has generally yielded. And although the situation of such drains has commonly been chosen as near to the part affected as possible; yet, provided the same quantity of matter be discharged, the situation of the issue is not probably of much consequence; and therefore, that which is most convenient for the patient may be always fixed upon.

The issue having discharged for some time, and the different remedies formerly recommended being still continued, the cure of such ulcers will at last be commonly completed.

Since the first edition of this work was published, the good effects to be obtained from issues in the cure of old habitual ulcers, have in various instances been experienced. In some of these, cures were obtained by issues, when every other means of relief had been found to fail: And in others, the sores broke out again upon allowing the issues to dry up, and were

again cured by having recourſe to the ſame means.

Various inſtances might likewiſe be given from authors, not only of the difficulty of curing habitual ulcers unleſs an iſſue be previouſly inſerted, but of very pernicious conſequences reſulting from it. But as the experience of every practitioner muſt have furniſhed inſtances of this, we do not think it neceſſary to refer to books for authorities.

In ſores which have not been of long duration, however extenſive they may be, it would be highly improper to put the patient to the trouble of an iſſue for their cure. In recent ulcers, the ſyſtem has not been ſo long accuſtomed to the diſcharge, as to induce any riſk from a ſtop being put to it; we wiſh, therefore, to have it underſtood, that it is not in ſuch ſores they are meant to be recommended: But in ulcers of long continuance, we muſt again ſay, that a cure can never be attempted with ſafety, unleſs an iſſue of an adequate ſize be previouſly inſerted.

As

As iſſues of every kind are attended with ſome inconvenience, they ſeldom prove agreeable to patients; and from this conſideration, practitioners are frequently induced to diſpenſe with them: The leaſt attention, however, muſt render it evident, that no conſideration of this nature ought to have any influence.

It is in the ſpecies of ulcer we are now conſidering, that the internal uſe of nitre has been ſo much recommended; but, although I have given it, in this as well as in other kinds of ſores, in very conſiderable quantities, and with every neceſſary precaution, I cannot ſay that I ever obſerved any evident effects produced by it. Sores, indeed, have been cured, in which nitre was uſed; but unleſs the roller and other local applications were employed at the ſame time, this remedy, in any of the trials I have made of it, has never of itſelf been able to effect a cure.

SECTION IV.

Observations on the Fungous Ulcer.

FUNGOUS excrescences frequently occur in different species of ulcers; and very often increase to such a degree, as to constitute sores extremely different in their appearances and effects, as well as in their requiring a different treatment, from the sores which originally induced them: and this is the reason for our allotting a separate section for their consideration.

§ 1. *Symptoms and Causes of the Fungous Ulcer.*

BY the term fungus, is understood such preternatural risings of the parts in sores, as are commonly more soft and spongy than sound healthy granulations; which, though they do not in general acquire any great degree

degree of bulk, yet, by long continuance and neglect, they do, in ſome inſtances, arrive at very conſiderable ſizes: And although, as we have obſerved, they are generally at firſt lax and ſoft, yet, when of long duration, they likewiſe, in ſome caſes, acquire very great degrees of hardneſs.

The pain attending them is not commonly conſiderable; though, in ſome inſtances, it is otherwiſe; and the diſcharge afforded by them varies according to the ſpecies of ulcer with which they happen to be connected.

Thus, when a hyperſarcoſis, the term commonly uſed for ſuch riſings in ſores, occurs merely from neglect in a ſimple purulent ulcer, the diſcharge frequently continues all along tolerably good; and, on the contrary, when it is connected with an ulcer diſcharging any of the more acrid vitiated matters, as in ſome inſtances is the caſe, the diſcharge uſually continues to be of the ſame nature.

With reſpect to the cauſes of the diſorder;

der; when ſpeaking of ſimple purulent ulcers, it was obſerved, that in a healthy ſtate of body, and eſpecially in young people, the new granulations that form in ſuch ſores are very apt to puſh forward too much, ſo as to riſe above the ſurface of the neighbouring parts. This, by attending to the directions which were then given, may often be prevented; but if, in ſuch circumſtances, the ſore be neglected, and the parts are allowed to advance much further, the diſorder of which we are now ſpeaking comes then to take place: And if it is not attended to for yet a ſtill longer time, as, with poor people eſpecially, is frequently the caſe, even this the moſt ſimple ſpecies of fungus, degenerates into a very troubleſome diſorder; it being in this manner that the very hardeſt excreſcences are commonly produced.

Another variety of the diſorder is ſometimes met with in the cure of wounds and ulcers of different kinds, from not attending to their being ſound at bottom before the new granulations are allowed to proceed

proceed any length. In this manner, whether from any ſinus not being filled up, or from any corrupted parts, that may not have been thrown out, continuing to act as extraneous bodies, the granulations that firſt appeared ſtill continue to advance; but, inſtead of cicatriſing when they are on a level with the neighbouring ſound parts, they go on riſing conſiderably beyond them, till the diſeaſe we are now conſidering is of ſome duration.

And, when in this way a fungus has once commenced, it continues to increaſe from day to day, till the cauſe which originally produced it is diſcovered, and removed, either by art or nature, in conſequence of a plentiful ſuppuration being formed below, and burſting out; which, by laying open the ſeat of the diſorder, gives room for a proper treatment to take place.

§ 2.

§ 2. *Of the Cure of the Fungous Ulcer.*

By a proper attention to the caſe, and to the different cauſes we have mentioned, it will, in general, be eaſily diſcovered from which of the two the diſeaſe has originally proceeded: and, as ſoon as the cauſe is diſtinctly known, the method of cure to be purſued is juſt as certainly determined; which, till then, could not with propriety be undertaken, as, in the two different caſes, the remedies found to be neceſſary are of very oppoſite natures.

When it is found that the fungus has been induced merely by an overgrowth of parts, and that there is no diſeaſe lurking at the bottom of the ſore; when the tumor is of a conſiderable breadth, and eſpecially when it does not riſe to any great height; we ſhould have recourſe immediately to the uſe of eſcharotics.

Of ſuch applications, a great variety has been recommended: by many, even the actual cautery has been propoſed; and by others,

others, we are directed to remove at once all fungous parts by the ſcalpel.

Either of theſe methods would, no doubt, prove in every caſe very effectual, and a great deal more expeditious than any other that can be recommended: but they have ſuch an appearance of ſeverity, as to deter almoſt every one from ſubmitting to them; eſpecially as it is well known, that the diſorder we are treating of can be juſt as certainly, though perhaps not ſo quickly, removed by means of much more gentle remedies.

Of all the artificial cauſtic preparations enumerated by authors, the lunar cauſtic is, for ſuch purpoſes eſpecially, by much the beſt. It acts more quickly, and does not produce more pain, than many of the milder ſorts; it never fails to produce the proper effect, which is not the caſe with any of the others; and it is not near ſo apt to run and to ſpread over the neighbouring parts, as ſome of the other compound forms of cauſtic, which is frequently a very troubleſome circumſtance attending their uſe.

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The cauſtic ſhould be liquefied; and a ſmall bruſh or pencil being dipt in it, it is in this manner to be applied to ſuch parts as are to be deſtroyed: And this being done either daily, or every ſecond day, the fungus will be removed in a longer or ſhorter time, according to the ſize and firmneſs of the tumor. A ſtrong ſolution of verdigriſe in water, of crude ſal ammoniac, or of blue or white vitriol, being applied in a ſimilar manner, will commonly prove effectual too, in removing ſuch excreſcences.

In the courſe of practice, caſes occur, in which ſome variety of ſuch applications is found to be neceſſary: I have made trial of a great number; but none ever proves ſo generally uſeful, as the lunar cauſtic. For purpoſes of this kind, I have ſometimes uſed a ſtrong ſolution of ſilver, or of crude mercury, in ſpirit of nitre; and the effects of it, as may readily be imagined, are always very powerful: they are nearly the ſame, indeed, being only ſomewhat more powerful than thoſe we commonly experience from lunar cauſtic; this kind of cauſtic

ſtic being merely a ſolution of ſilver in the nitrous acid, evaporated to dryneſs.

One ounce of pure quickſilver will diſſolve in an ounce and a half of ſtrong ſpirit of nitre; and this forms, perhaps, as ſtrong a cauſtic as can be prepared. For other purpoſes, where milder applications of this kind are neceſſary, the ſtrength of the remedy may be reduced by uſing a ſmaller proportion of mercury and a weak nitrous ſpirit: But for the removal of a hard callous excreſcence, the ſtrongeſt ſolution ought to be employed; it gives no more pain than thoſe of a weaker nature, and it always proves more effectual. We may here remark, too, that a ſtrong ſolution of this kind is perhaps the moſt effectual of any cauſtic application, in the removal of warts of every kind, and particularly for thoſe which originate from a venereal cauſe: but in uſing it, either for warts, or for ſuch fungous excreſcences as we are now deſcribing, it ought never to be applied to an extenſive ſurface at once. When the fungus is inconſiderable, a ſmall quantity of the

the ſolution may be applied over the whole of it without any riſk: But, in extenſive affections of this nature, it anſwers better to apply it to a ſmall portion of them only; and if different parts of an excreſcence be touched with it daily, the whole will in general be ſoon removed. After the application of any of theſe articles, the parts ſhould be covered with dry lint; and not, as is commonly done, with any kind of ointment, which always tends to deſtroy the activity of every cauſtic remedy.

We have hitherto been ſuppoſing, that the ſurface of the fungus is of a conſiderable extent, and that it is not raiſed to any great height above the contiguous ſound parts: But whenever the reverſe of theſe circumſtances takes place, that is, when there is a narrow baſe, and the height of the excreſcence is conſiderable, the moſt expeditious and eaſieſt method always is, to take it off by a ligature; which being applied at its root tolerably tight, and ſtraitened a little every day, ſoon deſtroys the

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circulation in the swelling so entirely, as to cause it in a short time to drop off.

When the rising is, as we have observed, narrow at the base, and especially when it is in the least pendulous, a ligature can be applied and kept on with the greatest ease; but when the tumor is broader below than above, it is not possible, without some assistance, to prevent it from slipping off. It may always, however, be certainly and very easily effected in the following manner.

A strong straight needle, with an eye near to its point, and fixed in a handle, being pushed through from one side of the tumor to the other, at its base, and two strong waxed threads being introduced at its eye, it is to be again drawn back, leaving the threads with their ends hanging out at each side of the swelling. In this situation, a firm ligature is to be formed round one half of the tumor, by the two extremities of one of the threads; and with the other two, the other half is in like manner to be comprehended; and each of them being from time to time properly tightened, both halves of

the ſwelling will for the moſt part very ſoon fall off. The hint of the practice we have here recommended, was taken from the deſcription of a curved needle of this kind, recommended by Mr Cheſelden, for the extirpation, by ligature, of diſeaſed tonſils, which, in certain caſes, without ſome ſuch contrivance, could never with propriety be attempted.

The fungus being, by either of theſe methods, removed, the ſore is then to be treated in the manner we have already directed for the management of ſimple purulent ulcers.

The other ſpecies of fungus we have mentioned, that proceeds, as we obſerved, from the new granulations in ulcers not being raiſed on a ſure foundation, by purulent matter, or ſome other extraneous body, being lodged at the bottom of the ſore, is, in general, very eaſily diſtinguiſhed from the preceding ſpecies. It riſes with much greater rapidity, and is not near ſo firm; on the contrary, it is always more ſoft and flabby even than healthy granulations.

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By attending to theſe, and all the other circumſtances of the ulcer, the cauſe will ſeldom remain long in doubt; and as ſoon as it is diſcovered, the firſt thing to be done, is to give free vent to the confined matter, by making a proper opening into it. After which, by taking care that the ſore fills properly up from the bottom, the cure will go eaſily on in the ordinary way. Nor, unleſs when the fungus is very conſiderable, can there ever be any occaſion for the uſe of eſcharotics; for, in ſuch caſes, the granulations are commonly ſo ſoft and ſpongy, as to waſte away of themſelves in the courſe of the cure, without any aſſiſtance whatever from cauſtics.

Theſe are the only caſes of fungus, which in general, in local ulcers, ever prove troubleſome; excepting, perhaps, that which occurs as a ſymptom in carious ulcers, and which, in its proper ſection, will be taken notice of. It may be alleged, indeed, that the varieties we have now deſcribed may be conſidered as ſymptomatic; and for this reaſon, it may be ſaid, that

they ſhould not be allowed to conſtitute diſtinct complaints: For the reaſons we have formerly given, however, and particularly from their treatment being very different from that which is neceſſary in any other ſymptom of ulcer, it was thought proper to allot a ſeparate ſection for their conſideration.

SECTION V.

Obſervations on the Sinuous Ulcer.

§ 1. *Of the Symptoms and Cauſes of the Sinuous Ulcer.*

BY the term ſinuous ulcer, is meant that ſpecies of ſore communicating with one or more openings or cavities of various ſizes

fizes and dimenfions, which are generally feated in the cellular membrane, between the common teguments and mufcles, or between the interftices of the mufcles themfelves.

Thefe different finufes ferving as refervoirs, both for the matter formed in the body of the fore, and for that which is afforded by the fides of their own cavities, make the difcharge of all fuch ulcers, when the matter of the finufes is preffed into them, appear to be much more confiderable than their extent of furface would give caufe to expect.

A finus, as thus defcribed, is the moft fimple ftate of the diforder: but, by long continuance, or by the ufe of drying aftringent applications, it is liable to become hard and callous in its internal furface; and, in fuch a ftate, from its fuppofed refemblance to a pipe, it is termed a fiftula; of which nature is the fiftula in ano, a well-known and troublefome diforder.

The moft frequent caufe of the formation of finufes in ulcers and abfceffes, is the

want of a free vent to the diſcharge; which, naturally falling to the moſt depending ſituation of the part, if it does not there find an eaſy and ready paſſage by an opening being made into it, it very readily inſinuates into the ſoft yielding ſubſtance of the cellular membrane, and proceeds on gradually, till it ſomewhere or other makes an opening for itſelf, either upon the ſurface of the body, or into ſome of the neighbouring cavities.

Very tight bandages, too, when applied directly upon ulcers, if they are not made to act likewiſe upon the neighbouring ſound parts, for ſome way both above and below the ſores, are not unfrequently attended with the ſame effect; and ſhould never, therefore, be applied in this manner.

In every caſe of recent ſinus, and even, in general, in thoſe of longer ſtanding, when theſe are ſo far acceſſible as to admit of proper applications being made to them, and when the conſtitution in other reſpects is healthy, we may almoſt always

venture

venture to make a favourable prognoſis. But when the complaint has been of very long continuance, and eſpecially when the different ſinuſes open into any of the joints, or are beyond the reach of an operation, a cure, in ſuch caſes, becomes both very difficult and doubtful. Nor is there, indeed, any diſorder that more frequently baffles the ingenuity of ſurgeons, than ſome ſpecies of this diſorder, particularly the fiſtula in ano.

§ 2. *Of the Cure of the Sinuous Ulcer.*

In recent affections of this nature, we are directed by all the old writers, as likewiſe by many of the moderns, to make uſe of what they call, vulnerary or healing injections. And, in the more advanced ſtates of the diſorder, when by long continuance the ſides of the different ſinuſes have become callous, eſcharotic injections and powders have been recommended: But none of theſe have ever been found to produce any permanent good effects; and

the too frequent uſe of them has often rendered hard and callous ſuch ſinuſes as before were of the moſt ſimple nature.

Others again have adviſed, in every caſe of this kind, eſpecially when the complaint is in any degree of a fiſtulous nature, to lay the different ſinuſes open from one end to the other, and, by cutting out all the hardened parts, to convert the whole into one common ulcer, and to proceed afterwards with the cure in the ordinary manner.

This method will, no doubt, very frequently effect a cure; but, independently of the great pain, and very large unſeemly cicatrix, which it never fails to produce, it cannot, in every caſe, with ſafety, be put in practice.

Thus, when ſinuſes run far up the rectum, it can never conveniently be practiſed; and when, as is frequently the caſe, they penetrate deep, and run below either large blood-veſſels, tendons, or nerves, it would never ſurely, in theſe caſes, be adviſable to have recourſe to ſuch treatment.

But although the practice was even altogether

together free from danger, it ought in almoſt every inſtance to be laid aſide; ſince we can, by a much more ſimple and leſs painful operation, be always as certain of obtaining a cure, as we ever could be, either by a ſimple inciſion, or by an entire deſtruction of the parts.

The intention of cure in every caſe of ſinus, is to produce a coaleſcence of its ſides, ſo as to deſtroy any vacuity that may have been occaſioned.

The moſt effectual means for accompliſhing this, is, firſt to make a depending orifice for a free exit to the matter; and then, by gentle irritation, to induce, on the internal ſurface of the ſinus, a ſlight degree of inflammation, which by experience is known to be the ſtate which proves moſt favourable to the production of adheſion between any two parts; ſo that a firm union of the ſides of the ſinus to one another may in due time be obtained.

Now both theſe intentions are fully anſwered by the introduction of a ſeton, from the orifice in the ulcer, along the courſe of

of the ſinus, to its other extremity; where an opening, large enough for the diſcharge, ought to be made in the manner we formerly directed in caſes of abſceſs.

The cord of cotton or ſilk ought at firſt to be pretty large, more or leſs ſo according to the capacity of the ſinus; and it ſhould be diminiſhed gradually, as the cure advances, by taking away a thread or two from its thickneſs every ſecond or third day. And at laſt, when the diſcharge is greatly leſſened by the filling up of the vacuity occaſioned by the ſinus, the ſeton ſhould be totally withdrawn; and a bandage being applied with ſome tightneſs over the part, and being continued a ſufficient length of time, a complete cure will for the moſt part be effected.

The firſt ſtep to be taken then, in all caſes of this kind, is to diſcover the direction in which the ſinuſes run; which commonly we can eaſily do, either by the introduction of a probe, or by obſerving where the matter points on being allowed to collect for ſome time, and from whence

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it comes, on the part being preſſed. And into every ſinus that opens into the ulcer, a ſeton, as we have above directed, ſhould be introduced.

This method of curing ſinuſes, by the uſe of the ſeton, is free from all manner of danger, and is admiſſible in almoſt every caſe that can occur. Even when ſinuſes run deep among the muſcles and blood-veſſels; and when it would be unſafe, therefore, to uſe either the ſcalpel or acrid injections; a ſeton, introduced by means of the director, as we formerly recommended in the treatment of abſceſſes, may be always employed with much ſafety and advantage.

The practice we have here recommended is ſeldom found to fail in any caſe of ſimple ſinus; and, in general, it anſwers even in thoſe which are conſidered as real fiſtulæ.

Although it would be very inconvenient in ſuch a ſituation, yet I am much perſuaded, from its general utility in ſimilar caſes in other parts, that the ſeton would prove a much more effectual remedy in

caſes

caſes of the fiſtula in ano, than any other that has as yet been employed. In ſimilar caſes of this kind that occur in the perineum, I have known it uſed with the greateſt advantage: And it is in this ſituation, indeed, particularly proper; as the cicatrix formed after the opening of a long ſinus in the common method, with a ſcalpel, proves in theſe parts frequently more troubleſome and painful to the patient, than even the original diſeaſe it was intended to remove.

The ſinuſes, by theſe means, being at laſt filled up, the ulcers with which they have been connected are then to be cured in the ordinary manner, as we have directed in one or other of the different ſections, for the ſpecies of ſore to which they may happen to belong.

This part of ſurgery, it may be obſerved, is much indebted to the ingenious Mr Pott, for the ſimplicity he has been in a great meaſure the means of introducing in the treatment of fiſtulous complaints in ano and in perineo. In all of which,

which, as we have already remarked, it uſed formerly to be, and with many indeed ſtill is, the practice to cut out the affected parts entirely, whether they are much hardened or not: which not only occaſions a great deal of unneceſſary pain, but very ſeldom produces ſuch an agreeable or ſpeedy cure as is obtained by merely laying the parts open with a ſimple inciſion; and which is all that, even in the moſt obſtinate caſes, ſhould be ever attempted. For, if a cure cannot be obtained by ſuch an operation alone, or by the ſeton when it can be uſed, as we have lately adviſed, cutting out the parts never will effect it, unleſs they are all evidently in a very hard callous ſtate; in which caſe, extirpation of the diſeaſed parts may no doubt in ſome caſes, be neceſſary. Even when a very conſiderable degree of hardneſs prevails, much advantage is often derived merely from laying the ſinuſes open by a ſimple inciſion along the courſe of each of them: The free vent which is thus given to the diſcharge, together with the new

new ſuppuration induced by the inciſions, proves frequently a very certain means of removing the calloſities; and this being accompliſhed, a complete cure is commonly obtained.

SECTION VI.

Obſervations on the Callous Ulcer.

§ 1. *Of the Symptoms and Cauſes of the Callous Ulcer.*

AN ulcer is ſaid to be callous, when its edges, inſtead of contracting, and diminiſhing the ſize of the ſore, keep at a ſtand, turn ragged, and at laſt, by acquiring a preternatural thickneſs, riſe conſiderably above the level of the neighbouring parts: And, as it is generally from

from neglect, or improper treatment, that ulcers do turn callous, the discharge afforded by them is commonly a thin vitiated matter.

It is in this species of ulcer chiefly too, that varicose veins occur as a symptom, especially when the complaint is seated in the lower extremities. This seems to be owing, not only to the difficulty the blood, in such situations, meets with in its return to the heart; but, in a great measure, to the stricture occasioned by the callosities on the course of the different veins; a circumstance which, in extensive sores of this kind, must, no doubt, have a considerable influence.

By many, even late writers, this species of ulcer has been commonly termed varicose; from their supposing such sores to proceed from, and to be as it were fed by, matter furnished to them from these swelled veins, which frequently have the appearance of opening into them*.

This error, however, it is evident, must have

* See Turner's Art of Surgery, Vol. II. p. 3.

have proceeded from want of attention to the cause of such swellings in the veins; together with the mistaken notion which has hitherto prevailed respecting the formation of pus and other kinds of matter; which were formerly, in general, supposed to circulate with, and to be deposited from the blood; but which, in the preceding essay, we have endeavoured to demonstrate to be an opinion void of foundation.

With respect to the causes of callosities in ulcers, it may be remarked, that they may all be reduced to the general head of neglect and improper management. When sores are injudiciously treated, either by irritating or very relaxing applications; or when they are entirely neglected, so that fungous excrescences are either allowed to arise, or different dressings and other extraneous bodies are permitted to remain too long in their cavities; such substances come at last to act as impediments to the farther diminution or contraction of the ulcers. And, the small vessels of their edges

edges being thus prevented from proceeding farther in a proper direction, are forced to push upwards, and sometimes even backwards, till, in consequence of the usual pressure from the necessary bandages, they naturally come to acquire a morbid hardness or callosity; which, as long as it is allowed to remain, very effectually prevents the accomplishment of a cure, however judiciously the sores may in other respects be treated.

§ 2. *Of the Cure of the Callous Ulcer.*

From the consideration of the abovementioned cause of the disorder, the first step towards a cure, it is evident, should consist in its total removal.

Thus every improper application, which, till now, may have been used, should be immediately laid aside; and if any fungus or other extraneous body appears to be doing mischief, these and every other obstruction to a cure, ought as soon as possible to be removed. This being thoroughly

accompliſhed, and the ſore brought to a clean healing condition, the different calloſities are then to be deſtroyed; for, till they are effectually removed, it is in vain by any kind of application to expect a cure.

In recent inſtances of ſuch complaints, warm emollient cataplaſms, when continued for a proper length of time, by ſoftening the calloſities, will frequently, without any other application, anſwer every intention of cure. But it is in the earlieſt periods of the diſorder only that theſe ever prove effectual: for when it has been of long duration, ſo that the edges of the ſore have acquired much preternatural hardneſs, neither the uſe of emollients nor of gum-plaſters, as we find in ſuch caſes recommended by many authors, are ever attended with any remarkable advantages.

The only remedy then we can have recourſe to, is the ſcalpel or cauſtic: And as this laſt, when properly managed, is equally certain with the other, it ſhould, as the eaſieſt method, be always employed; and, for

for reafons we have mentioned in a former fection, the lunar cauftic fhould be here likewife preferred. The folution of filver or of mercury, of which we gave a defcription when treating of the fungous ulcer, may be ufed with equal propriety here too: Either this, or the lunar cauftic, fhould be applied every two days to the callous edges of the fores, which in this manner will be foon deftroyed. By this means, together with a continuation of the poultices fo long as any degree of foulnefs remains in the fores, they will foon be reduced to the ftate of fimple purulent ulcers, when the treatment we have recommended for that fpecies of fore will feldom fail in accomplifhing a cure.

In the lift of fymptoms which we formerly enumerated, varicofe veins were mentioned as one. Thefe, it might be imagined, when the caufe which produced them was removed, would likewife difappear. This, however, is feldom the cafe; for blood-veffels, which have once fuffered fuch a diftenfion as to be deprived

entirely of their tone, do not often foon recover it. In the treatment, therefore, of this fpecies of ulcer, it is not merely neceffary to remove the caufe which originally produced thefe fwellings in the veins: fome fupport muft be afforded to the weakened parts, in order to enable them the more eafily to recover their ufual ftrength.

For this purpofe, nothing has hitherto proved fo effectual as the laced ftocking, or fpiral bandage, which we have already recommended fo frequently for different circumftances in the cure of fores. In order to have a proper effect, however, in every cafe of varix of long duration, it ought to be continued for a very confiderable time: And it rarely happens, we may remark, that any inftance occurs of the diforder being fo bad, in which a cure may not be obtained merely by the means we have recommended; or at leaft, that the inconvenience produced by the fwelling of the veins, may not be fo far palliated, as to render quite unneceffary that painful operation, fo frequently recommended, of extirpating, as in

cafes

cafes of aneurifm, the difeafed or fwelled parts.

The effects of preffure in the cure of fores, we have already taken different opportunities of mentioning; but they are particularly remarkable in ulcers with callous edges. In fores of this kind, this hardnefs or callofity of their edges, is not the only impediment to a cure: the contiguous parts are always much tumefied; an occurrence which muft be entirely removed, before any permanent cure can be obtained.

This fwelling of the neighbouring parts originates moft probably from obftructions taking place in the fmaller veffels of the edges of the fores, in confequence of preffure produced by the callofities which furround them: And accordingly it will fometimes fubfide merely by the effects of emollient poultices in removing this hardnefs by which the tumefaction was induced.—But when thefe do not prove altogether effectual, preffure obtained by a proper and continued ufe of a flannel rol-

ler, will in almoſt every inſtance complete the cure.

SECTION VII.

Obſervations on the Carious Ulcer.

§ 1. *Of the Symptoms and Diagnoſis of the Carious Ulcer.*

BY the term Carious Ulcer, is here underſtood that ſpecies of the diſder only, which is connected with a local affection of a bone. For although the ſpina ventoſa, rickets, and ſome other diſorders of the bones, may, in particular circumſtances, perhaps, come under the ſame denomination; yet as it is probable, that ſuch affections of the bones as occur in theſe diſeaſes, are connected with, and de-

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pend upon, ſome general diſorder of the ſyſtem, and which with more propriety comes under the province of medicine than of ſurgery; to enter upon their conſideration at preſent, would evidently be deviating very much from our plan. All that is now intended is, to give as clear and conciſe a deſcription as poſſible of that ſpecies of caries in which ſurgery is more particularly concerned, and in which, by proper attention, we often have it in our power to be of more real ſervice, than in almoſt any other chronic diſorder that comes under the management of a ſurgeon.

It may likewiſe be obſerved, that ſo far as thoſe diſeaſes of the bones above mentioned are to be conſidered as local affections, which, after the removal of the general diatheſis which produced them, they frequently are; the different directions we are afterwards to give, will be found to apply with equal propriety to them, as to the moſt ſimple caſes that occur.

The moſt clear and ſimple idea that can be given of a caries, is, that it is a diſorder

of the bones exactly of the ſame nature with a ſphacelus or gangrene of the ſoft parts; a circumſtance which, we think, is very clearly demonſtrated, both from the ſymptoms, cauſes, and method of cure.

As the blood-veſſels in bones are not near ſo numerous, in proportion, as in the ſofter parts of the body, the anaſtomoſing of different veſſels cannot occur in them ſo frequently; ſo that, when any conſiderable artery of a bone happens to be deſtroyed, the parts ſupplied by it naturally ſuffer much more than any of the ſofter organs would do from a ſimilar cauſe.

And, as all the blood-veſſels of bones are known to paſs to them through their ſurrounding membrane the perioſteum, upon which they generally run for a conſiderable way before penetrating deeper, it is not very uncommon for a caries to occur in a bone which has ſuffered no other apparent injury than that of having a very ſmall portion of its membrane deſtroyed.

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We do not, however, mean to ſay, that a caries muſt always neceſſarily follow a deſtruction of a part of the perioſteum; for the contrary of this is frequently known to happen: And unleſs the injury has been ſo conſiderable, as at the ſame time either to affect the ſtructure of the bone itſelf, or to occaſion, as we have already obſerved, the deſtruction of ſome principal artery, a caries will never occur merely from an abraſion of the perioſteum; but whenever an accident has produced either of theſe effects, the other will almoſt conſtantly be found to follow.

From the firſt appearance of a bone after it is laid bare, unleſs its ſubſtance has been evidently affected, we can never at once determine preciſely, whether a caries will ſucceed or not. In mere abraſions of the perioſteum from ordinary accidents, I would, from a number of obſervations, conclude, that there is at leaſt an equal chance that it will not: a ſhort time, however, will commonly reſolve the uncertainty.

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For if, at the end of the fourth day at fartheſt, a bone that has been denuded ſtill retains its natural appearance, we may in general conclude, with tolerable certainty, that no carious affection is to ſucceed; and may accordingly proceed with ſafety in the treatment, as if the caſe were that of a ſimple wound only; which can never with propriety be done, whilſt any uncertainty remains with reſpect to the ſtate of the bone: And hence the great conſequence of being able ſoon to determine, whether a bone laid bare is to be attacked with caries or not.

For if, from want of attention, a cure ſhould be attempted in a caſe where caries is to follow, and if the ſore ſhould be made to cicatriſe, all the new growth would be again to deſtroy, much unneceſſary pain would be given to the patient, and a permanent cure would be much longer protracted than if proper meaſures had been taken at the beginning.

In general, however, as we have already remarked, if a denuded bone is to become carious,

carious, it usually shows itself in a very short time. By the end of the third or fourth day at farthest, the bone begins to lose its natural healthy appearance, turns first of a pale white, and then gets a slight tinge of a yellow complexion; and whenever this begins to appear, there can be no longer a doubt of what will be the consequence.

It sometimes remains, however, in this state, for a good many days, and by degrees gets a more deep tallow-like appearance; in which state it commonly continues for a longer or shorter time, according to the degree of violence with which the injury has been done; and afterwards goes thro' the different stages of brown and dark, till it has acquired a black of the deepest dye, a period at which we may suppose this portion of the bone is arrived at, perhaps, the highest degree of mortification.

The discharge from ulcers of this kind, is never of the consistence of good pus: it is generally considerably thinner; and from the first appearance of a caries, it acquires

a moſt diſagreeable fetor, which always turns more conſiderable as the different ſtages of the diſorder advance; and at laſt, too, it acquires a blackiſh hue, at the ſame time that it frequently becomes exceedingly acrid.

As the ſeveral degrees of blackneſs or mortification go on, ſmall foramina or holes ſeem as it were to form in the diſeaſed parts; and by degrees increaſe conſiderably, till even the moſt ſolid bones acquire a kind of ſpongy appearance. In this ſituation, the mortified portion generally becomes looſe, and, when preſſed upon, a conſiderable quantity of a fattiſh-like matter, with an intolerable fetor, can commonly be forced out from the different openings; which ſo taints the whole diſcharge from the ulcer, and gives it ſuch a very peculiar ſmell, as to render it ſcarcely poſſible for any practitioner who has once known thoroughly what it is, ever to be deceived with reſpect to the exiſtence of a caries. Indeed this circumſtance alone affords almoſt as certain a diſtinction

tion in cafes of latent caries, as any that can be pointed out.

In ulcers attended with a carious bone, the flefhy parts never have a healthy appearance; they are foft, and more flabby than natural; and, inftead of a florid red, they have rather a dark brown, together with fomewhat of a glaffy complexion.

The granulations, however, commonly advance quickly enough; and they would frequently proceed too far, if they were not prevented by art; which it is always neceffary that they fhould be, till the difeafed parts of the bone are either caft off by the efforts of nature, or are cut out by art, fo as that the healing of the fore may take place with certainty from the bottom. And, when neglected for any confiderable time, thefe foft productions in carious ulcers frequently increafe fo remarkably, as to form very large and troublefome excrefcences.

We have hitherto been fuppofing, that only a portion of the fubftance of a bone has been affected; in which cafe a cure is fometimes obtained by a fingle lamina only cafting

casting off. But the same phenomena likewise occur when the caries has been so considerable, as to affect a bone through its whole circumference. Only, in this case, the caries generally advances more quickly; and, in the treatment of it, it is often necessary that the whole substance of the bone, in the diseased part of it, should be taken out.

Such are the different appearances of caries, proceeding from an external accident, that has laid the bone fairly open to view: But the same kind of disease occurs frequently in a more latent manner; and, in such cases, it proves always, in every respect, a great deal more troublesome.

Ulcers of long continuance above the tibia, or any other bone not thickly covered with soft parts, merely by the matter insinuating to the periosteum, and there producing inflammation and suppuration of that membrane, by which the bone itself is apt to be eroded, very often prove the origin of troublesome cariosities; which again, as long as they remain, prevent ef-

fectually

fectually the proper cure of all ſuch ſores, notwithſtanding the uſe of every remedy that can be employed. For when, by the application of very drying aſtringent remedies, a cicatrix happens in ſuch circumſtances to be induced, it proves conſtantly a temporary cure only; for the diſeaſe, in the courſe of a ſhort time, always breaks out again.

In ſuch caſes as we are deſcribing, when the external ulceration is not attended with a great deſtruction of parts, ſo that the bone ſtill remains with a tolerably thick covering, a caries is not always eaſily diſcovered; ſo that practitioners are frequently, for ſome time, at a loſs how to proceed in the cure: With a little attention, however, and eſpecially with the aſſiſtance of experience in former ſimilar circumſtances, a carious bone may, in general, be eaſily detected.

When by the introduction of a probe at any opening that may have been formed, if a roughneſs is diſcovered on the ſurface of

of the bone, the cafe becomes altogether evident.

Such information, however, is not always to be obtained; for frequently there is no evident opening in the furface of the fore; and, if there are any, they are often fo fmall, that no inftrument proper for the purpofe can get admiffion. And on other occafions, again, when an opening even tolerably large is met with, and when a caries does certainly exift, yet the difeafed part cannot be reached with the probe, on account of the obliquity or winding direction of the finus which leads to it.

Although in fuch cafes, however, the bone itfelf cannot be immediately reached; yet if fufficient attention be given to the appearance of the fore, and to the nature of the difcharge, we will not often be at any great lofs.

If a caries of the bone takes place, any new parts which may have appeared in the fore, are commonly, as we formerly remarked, foft and flabby; and, inftead of forming a regular furface, the new granulations

lations ſprout up in different cluſters, of the ſize of ſmall nuts or the like; and, inſtead of a healthy red appearance, they have uſually a dark-brown complexion.

Theſe circumſtances, when they take place, together with the diſcharge from the ulcer being thin, dark, and of a greaſy appearance, and eſpecially the peculiar and very offenſive fetor, which a caries always affords, point out the real ſtate of a bone in all ſuch caſes, with almoſt as much preciſion as if the bone itſelf were expoſed to view.

§ 2. *Of the Cauſes and Prognoſis of the Carious Ulcer.*

All ſuch accidents as can occaſion either denudation, loſs of ſubſtance, or eroſion of a bone, have commonly been enumerated by authors as the cauſes of caries. But it is a circumſtance well known to every practitioner, that the common teguments and perioſteum are very frequently de-

ftroyed, without any carious affection enfuing; and that even a very confiderable lofs of fubftance in a bone may, and frequently does occur, without being followed by any fuch appearance.

The caufes, therefore, of caries may, in general, be faid to be, whatever can, by erofion or otherwife, deftroy the circulation in the whole or in any part of a bone.

As fuch, may be mentioned, wounds in general, which affect either the periofteum or bones; violent contufions, and inflammation of the periofteum, from whatever caufe it may proceed, when it ends either in abfcefs or gangrene; the acrid matter of ulcers penetrating to and deftroying the periofteum; and laftly, the improper application of fharp acrid fpirits and powders to bones merely laid bare; a practice we find recommended very univerfally by almoft all the ancient writers on this part of furgery.

We have obferved above, that lofs of fubftance in a bone does not always produce caries.

caries. Thus, very conſiderable portions of the cranium, it is well known, are frequently taken out when fractured, without any caries of the remaining part of the bone enſuing: and, that the ſame circumſtance likewiſe happens, in many inſtances, in other parts of the body, I have had various opportunities of being convinced of.

That ſuch occurrences, however, do not ſo frequently take place in other bones as in thoſe of the cranium, cannot be denied: and the reaſon of it very probably is, that by a greater proportion of blood-veſſels being ſent to the bones of the ſkull than to any of the long ones, any accident which might otherwiſe be ſufficient for ſeparating one part of a bone from another, will, by this mechaniſm, be prevented from effecting a ſtoppage of circulation in the contiguous remaining parts with ſo much eaſe as in the hard bones of the extremities, in which the blood-veſſels are much more ſparingly diſtributed: And to ſuch a ſtoppage we have already endeavoured to ſhow that every caſe of caries is to be attributed.

In every inſtance of caries, the prognoſis to be formed, muſt depend upon a variety of circumſtances: The principal of which are,

The ſituation of the diſeaſed parts; the nature and organiſation of the affected bone; the nature and degree of the inflicting cauſe; the ſize of the caries; the age and habit of the patient.

Thus it will be readily allowed, that a caries in any of the bones of the ſkull, ribs, or vertebræ, by theſe parts being ſituated above or upon organs ſo immediately neceſſary for life, muſt be attended with more riſk, than a diſeaſe, in every other reſpect of a ſimilar nature, in any of the bones of the extremities.

For a ſimilar reaſon, too, a caries ſeated near to any of the joints, from the danger of theſe becoming affected, is always attended with more riſk than when the diſeaſe is confined to the middle of a bone.

The conſiſtence or texture of a bone, too, has no ſmall influence in every caſe of caries;

ries; exfoliations being much more tedious, in the hard and compact, than in the more ſoft vaſcular bones. Thus, although, as we have already remarked, diſorders of this kind are attended with more riſk on the ſkull than elſewhere; yet a caries of any of the bones of the cranium, if it admits of a cure at all, never proves near ſo tedious as when the hard ſubſtance of the humerus, femur, or tibia, is affected.

The nature of the cauſe which produced the diſorder, has likewiſe a conſiderable effect in determining the prognoſis. Thus a wound with a ſharp cutting inſtrument, that may have deſtroyed not only ſome of the perioſteum, but even part of the bone itſelf, does not generally produce either ſuch a deep or extenſive caries, as what commonly ſucceeds to violent contuſions of bones, with perhaps no immediate loſs of ſubſtance.

The extent of the diſeaſed part, too, we have already obſerved, is a circumſtance which influences the cure conſiderably. This is, no doubt, the caſe in every ſpecies

of ulcer, but it is more particularly ſo in all caſes of caries; for it is conſtantly found, that much more time, in proportion, is requiſite for the ſeparation of a large piece of ſpoiled bone, than what in general proves ſufficient for the removal of one of a leſs extent.

And, laſtly, as in every ſpecies of ſore, the patient's being young or old, healthy or otherwiſe, are circumſtances which occaſion very conſiderable differences in the progreſs of the cure. This, we may remark, is the caſe in every variety of ulcer; but it is particularly ſo in thoſe attended with carious bones, which always render the cure of ſores ſo extremely tedious, that few conſtitutions are able to ſupport the diſcharge which they produce, if they have not previouſly been perfectly firm and healthy.

Theſe are the leading circumſtances requiring our attention, in the treatment of ulcers attended with carious bones; and it is from a due attention to all of them that a juſt prognoſis is to be formed.

§ 3.

§ 3. *Of the Cure of the Carious Ulcer.*

CARIES being a diseafe of the fame nature in the bones, as mortification is in the foft parts, no cure, it is evident, can with propriety be attempted, till the removal of all the difeafed parts is accomplifhed.

For if, either by accident or defign, an union of the parts above fuch a caries fhould be obtained, the dead portion of the bone not having any connection with the living or found parts, by thus acting as an extraneous irritating body, would foon produce an abfcefs or collection of matter, and in this manner would force open the parts already united.

In a healthy conftitution, the feparation of difeafed mortified parts from fuch as remain found, is, in general, accomplifhed by a natural exertion of the fyftem.

The courfe which nature follows in effecting this, feems, as we formerly remarked when treating of gangrene, to be thro' the intervention of a flight degree of in-

flammation excited upon the extremities of the remaining ſound parts, which forms as it were, a boundary between theſe and ſuch as are diſeaſed.

In conſequence of ſuch an inflammation, a ſerous exſudation from the mouths of the ſound veſſels is produced; a ſuppuration is accordingly brought about, with a conſequent production of new granulations, which, together, ſoon effectually detach all the diſeaſed from the living parts.

This is evidently the proceſs, in ſuch caſes of mortification as occur in the ſofter parts of the body; and, with a very little attention, the ſame phenomena will be obſerved in every caſe of caries. Only in the latter, from there being in the bones, as we have formerly remarked, a more ſparing diſtribution of blood-veſſels, and conſequently not ſuch a diſpoſition to inflammation, the exertions of nature, for the removal of the diſeaſe, are ſeldom ſo quickly accompliſhed.

It is from a due attention to this proceſs of nature, in freeing herſelf from ſuch diſorders,

orders, that the greateſt advantages in the treatment of caries are to be obtained: And if we be directed by this in the choice and order of our applications, we may have it frequently in our power to accompliſh in a few weeks, what nature, if left to herſelf, would require many more months to effect.

From the foregoing conſiderations, the principal indication, it is evident, in every caſe of caries, ſhould be, by proper applications frequently reiterated, to excite, and continue as long as may be neceſſary, ſuch a degree of inflammation in the adjoining ſound parts of the bone, as may be requiſite for the total ſeparation of the mortified parts.

In this ſtate of the diſorder, the diſeaſed part of the bone we ſuppoſe to be laid quite bare; which in the caſe of caries, as we firſt deſcribed, is the caſe from the beginning; and which muſt, in the other, be brought about by deſtroying the corrupted and other parts that cover it, as

ſoon

ſoon as the caries from the different ſymptoms is known to exiſt.

So far at leaſt it muſt be laid open, as is neceſſary for getting freely at the diſeaſe of the bone in its full extent. This, by a mere inciſion along the courſe of the caries, may in general be done; but when the diſeaſe occupies any conſiderable extent of ſurface, it becomes neceſſary to make a crucial inciſion, or even to take away part of the teguments altogether. And till the diſeaſe of the bone is entirely removed, it is neceſſary, by a due attention from time to time, to prevent the formation of new parts, at leaſt ſo far as might in any degree obſtruct the ſeparation of the caries.

Whether authors have ever had in view ſuch an indication as the one we have mentioned, for the cure of caries, I know not: but the remedies employed, in ſuch caſes, have, in general, been very different from thoſe which reaſon evidently points out, and from thoſe means which have been uſed with much ſucceſs by many modern practitioners.

The

The directions given by all the older writers on this ſubject, and which are ſtill attended to by ſome of the moderns, are, in every caſe of caries, or even only of a denuded bone, to apply immediately, to the bone itſelf, powders and tinctures of aloes, euphorbium, myrrh, and other warm gums. This, it it is probable, they were originally led into, with a view to correct the great degree of fetor and putrefaction that, in caſes of carious bones, always takes place: and from cuſtom only the practice has been continued, without any other ſatisfactory reaſon; for the only effects which theſe applications can ever produce, farther than that of correcting the ſmell, is to irritate and inflame the ſoft parts of the ſore, without having the leaſt influence on the more material diſeaſe of the bone.

For, when the caries is of any conſiderable depth, ſuch ſubſtances can never penetrate to, or affect the ſound parts of the bone, where alone, by the irritation they would

would occaſion, ſome benefit might be expected from them.

And again, when no caries or affection of this nature has appeared, ſuch applications to bones merely denuded of their perioſteum, can never, in any reſpect, be neceſſary; and may, on the contrary, be frequently a means of inducing a real caries, the very diſorder they were intended to prevent.

Another remedy which we find frequently recommended by almoſt every author, in the more advanced ſtages of caries eſpecially, is the actual cautery. This, however, independently of the many objections made to it by patients, from the pain and ſeeming cruelty attending it, is evidently, from its nature, a very injudicious application in all ſuch diſorders: and although many have no doubt recovered when the cautery has been made uſe of, there can be little doubt, but that the ſame complaints would have been more quickly removed, although no ſuch remedy had been employed; for, in whatever way we ſup-

ſuppoſe it to be applied, its effects muſt evidently be pernicious.

If the cautery be applied in ſuch a manner as entirely to deſtroy the diſeaſed parts of the bone, as is commonly recommended, the ſound parts underneath, from the degree of heat neceſſary for that purpoſe, muſt undoubtedly always ſuffer ſo much, as to be ſoon rendered equally carious with thoſe intended to be removed.

And, on the contrary, when it is uſed in a more ſparing manner, the diſeaſed part of the bone will not be removed, whilſt at the ſame time there will be a conſiderable riſk incurred of retarding the natural exertion of the ſyſtem for the removal of the diſeaſe: for even a very moderate heat will effect the deſtruction of ſuch granulations as nature may for this purpoſe have already formed; and the juſt degree of heat, it may be remarked, neceſſary for deſtroying the morbid, without affecting the ſound parts, it is ſcarcely poſſible to determine.

When, for any particular reaſon, the actual

actual cautery may not be judged proper, it has been recommended, by the ſame authors, to make uſe of different artificial cauſtic preparations; and by others, it is adviſed, as the ſhorteſt proceſs, to ſtrike off at once all the diſeaſed parts with a chiſel and mallet.

But the objections to the uſe of the cautery, which we have already ſtated, hold equally ſtrong with reſpect to theſe: ſo that, in every caſe of caries, every application of ſuch a precarious nature ſhould be entirely laid aſide; eſpecially as we have it in our power to accompliſh the ſame indication in a much more ſafe and certain manner.

For the purpoſe of exciting a neceſſary degree of inflammation, the moſt effectual and ſafeſt method, and which, in ſlight caſes of caries, proves always ſufficient, is to make a number of ſmall perforations all over the ſurface of the diſeaſed bone, to ſuch a depth as to give the patient a very little pain, and no farther.

This operation being, in different parts, renewed

renewed every third or fourth day, the diseased portion of the bone, in the course of a short time, not only loses the cohesion of its own parts, but a gentle inflammation being, by the same means, raised and kept up till a free suppuration is produced, the whole mortified mass is generally, in a short time thereafter, entirely thrown off.

These perforations are very conveniently and effectually made by a pin or perforator, such as is used for fixing the head of the trepan; which being fixed in the handle of that instrument, not the one in common use, but that which resembles the tool made use of by coopers for perforating casks, it is thereby wrought with a great deal of ease and expedition.

Although the operation, as now described, in general answers very effectually in slight cases of caries, which are not of great extent, and which do not penetrate deeper than the first or second lamella of a bone; yet when the disease is very extensive, and especially when it goes deep into the substance of a bone, it shortens the process

proceſs conſiderably, if, inſtead of the perforator, a very ſmall head of a trepan be employed.

This inſtrument being applied at proper diſtances over the ſurface of the caries, and carried juſt as deep as to give the patient a very little pain, as we formerly directed, the production of that degree of inflammation which we have ſhown to be ſo neceſſary in all ſuch caſes, is thus very conſiderably promoted. And, at the ſame time, by converting, as it were, a very large caries into ſo many ſmaller diſeaſed parts, their ſeparation from the ſound bone below comes to be much more eaſily affected, than if the whole ſurface had ſtill remained in one continued piece.

As ſoon as any of the parts looſen at the edges, their final ſeparation may be always haſtened, by daily inſinuating below them the end of a common ſpatula or levator, ſo as to preſs their edges a very little upwards.

The head of a common trepan is frequently made uſe of for taking out a piece entirely

entirely when bones happen to be carious through the whole ſubſtance of their different lamellæ; but, in the ſtate of the diſeaſe, of which we are now ſpeaking, the caries is not ſuppoſed to have advanced ſo far, and conſequently ſuch a practice cannot with propriety be recommended.

After the uſe of either of theſe inſtruments, the ulcer is to be dreſſed in the uſual manner. Only, as long as any of the carious bone remains, the putreſcency and fetor of the matter are commonly ſo conſiderable, that it becomes neceſſary to employ ſome remedies merely with a view to correct it. For which purpoſe, a ſtrong decoction of Jeſuit's bark and walnut-tree leaves is frequently uſed with advantage: and a ſolution of camphor in weak brandy is alſo an application by which this fetor of morbid bones is very effectually corrected. The carious part of the bone ſhould be daily dreſſed with pieces of ſoft lint ſoaked in either of theſe, whilſt the reſt of the ſore is treated

in the manner we have directed for cafes of fimple purulent ulcers.

This putrefcent ftate of the difcharge afforded by carious ulcers, is likewife much corrected by the application of lime-water: If the fores be daily moiftened with foft cloths dipt in it, the matter feldom becomes very offenfive; and as this remedy feems to have fome influence in deftroying the cohefion of offeous matter, it ought never to be omitted in any cafe of this kind. Since I firft employed lime-water in ulcers attended with carious bones, I have met with different inftances of exfoliations being much promoted by it.

As foon as the carious parts are all entirely removed, the whole being then in the ftate of a fimple purulent fore, it ought to be treated accordingly: For, although we are particularly directed by authors in general, never, in any cafe of caries, or of denuded bone, to make ufe of ointments, or of any kind of greafy application; yet, as there was never any juft reafon given for fuch a prohibition, I long ago made trial of

of applications of this kind in cafes of caries; and, no inconvenience arifing from the practice, I have fince that time been in the daily cuftom of applying them juft as freely to bones as to other parts.

Of the great variety of books I have had occafion to confult upon this fubject, none have afforded me more fatisfaction than a treatife on carious bones, by the late celebrated Dr Monro; and I am happy to find, that the practice we have ventured to recommend, is fupported by the authority of fuch an eminent practitioner; who, after fpeaking of the application of unctuous medicines to bones, not only admits of it as fafe, but recommends the practice as exceedingly ufeful; and fays, "I can now, "after a great many trials, affure you, that "no medicines fo effectually *prevent the* "*corruption* of bones laid bare, and *affift* "to cover them fo foon with flefh, as "ointments *."

* In the fame ingenious Differtation may be feen a particular account of the feveral fpecies of caries; with a lift of authors in different ages, from Hippocrates down-

We have hitherto been ſuppoſing, as was already obſerved, that the diſeaſe does not penetrate far into the ſubſtance of a bone: but when this is found to be the caſe, and a conſiderable portion, perhaps, of its whole circumference is affected; or when the diſeaſe extends even round the whole bone, which in many inſtances is the caſe; the ſhorteſt proceſs then is, to take out at once all the diſeaſed parts, either with the head of a trepan frequently applied, or by means of a ſmall ſpring-ſaw.

Many inventions have been propoſed for cutting out portions of carious bones which ly deep: With a view to protect the contiguous parts from being injured by the ſaw, it has been adviſed to cover them with thin plates of ſteel; and ſaws of various forms have been ſuppoſed to be neceſſary for dividing the bone.

Almoſt every part of ſurgery is already too much loaded with machinery; but no

downwards, who have wrote upon it, with the ſeveral methods of cure propoſed by each of them. Vid. Monro's Works, 4to, Edin. 1781, p. 283, &c.

no operation with which we are acquainted, ſeems to require leſs aid from new inſtruments than the removal of a portion of a carious bone. In whatever part of the body the diſeaſe is ſeated, the teguments and muſcles which cover the caries, ſhould be freely divided: and, when the bones of any of the extremities are affected, if this be done to a proper extent, ſo as to admit of a piece of firm leather being inſerted below the bone, for the purpoſe of protecting the ſoft parts on the oppoſite ſide of the limb, a common ſtraight ſaw will anſwer, in almoſt every caſe, better than any other inſtrument. But when the bone lies very deep, a ſmall ſpring-ſaw of a circular form may be employed for dividing ſuch parts of it as cannot be eaſily reached by the common ſaw.

Thus, either by the uſe of the trepan, or by a ſaw, any portion of a diſeaſed bone may be removed; a practice which may frequently be employed to much advantage in the ſkull, in the bones of the hands and feet, as alſo in thoſe of the legs and

 arms,

arms, when the caries does not run into the necks and heads of the bones, fo as to affect the joints: In which event, if an anchylofis does not enfue, or if nature does not by fome means or other effect a cure, amputation of the limb muft almoft always be had recourfe to at laft; a caries of the extremities of large bones being one of the many complaints for which art has not as yet difcovered a remedy.

But, whenever a caries is confined to the middle of any of the bones of the extremities, excepting, perhaps, in the thigh, where the thicknefs of parts is very confiderable, amputation of the member fhould never be advifed for it: for, with a little patience and attention, if the patient's health is not much injured, nature may, in general, be fo far affifted by removing the difeafed parts, that a complete cure may at laft be moft frequently obtained. And in no cafe whatever ought we to defpair, when the carious part can, with fafety, be removed: For, however extenfive the difeafe may be, if we can properly accomplifh

accompliſh its removal, nature will ſeldom fail on her part, in filling up the vacancy; there being many inſtances to be met with, in different chirurgical publications, of even whole bones being regenerated.

We have obſerved above, that in carious affections of the larger joints, amputation of the diſeaſed limb is almoſt the only remedy to be depended on. It has, however, been propoſed, and has even been attempted, to ſave limbs affected in this manner, by cutting out the ends of the carious bones. Mr Park, a very ingenious ſurgeon of Liverpool, has publiſhed a treatiſe upon this ſubject, in which he gives the hiſtory of a diſeaſed knee-joint, where this operation ſucceeded. Although much merit, however, is due to whoever makes any probable attempt for ſaving limbs which otherwiſe would be amputated, and although the public is much indebted to Mr Park for the trouble he has taken in promoting the ſucceſs of the operation we have now mentioned, yet, from various circumſtances, there is much reaſon to

think, that it will never be found to be of general utility: Independent of other objections which occur to it, the riſk which attends it is evidently much greater than what commonly reſults from the amputation of limbs: the extent of ſore induced by it is greater; the ſuppuration is of courſe more plentiful; and the matter is not ſo freely diſcharged. We do not here, however, think it neceſſary to enter more fully into the diſcuſſion of this point, as we ſhall have occaſion to treat more particularly of it in another work.

During the treatment of a caries, it muſt be underſtood that the ſame attention is requiſite to the patient's habit of body, diet, and regimen in general, as we have recommended in other ſpecies of ulcers.

Thus, if he is of a full inflammatory conſtitution, all heating and very nouriſhing articles of diet ſhould be abſtained from; and if, on the contrary, the ſyſtem is low and emaciated, as, from the long continuance of ſuch diſorders is moſt frequently the

the caſe, a nouriſhing generous regimen ſhould always be allowed. In ſuch caſes, too, as tonic remedies are much wanted, Jeſuit's bark is often found to prove ſerviceable, and it ſhould always be uſed in conſiderable quantities.

The bark is almoſt the only medicine which, in caſes of caries, ſhould ever be given internally: but in ſome inſtances, the ſoft parts which cover a carious bone, become ſo ſwelled and painful, that opiates are found to be neceſſary. And as it appears, that, in ſuch caſes, the pain proceeds in a great meaſure from the diſtenſion of the perioſteum, in conſequence of the bone becoming enlarged, I have frequently been induced to try the effects of ſlight ſcarifications, or of bleeding with leeches directly on the pained parts; by which means relief is frequently obtained, when it cannot be procured by any other means. I may here remark, too, that in every ſpecies of ulcer, attended with much pain, leeches applied either upon the edges of the ſores, or directly upon the affected parts, are often

often attended with the beſt effects, inſomuch that I am now in the daily habit of uſing them whenever a ſore becomes ſo inflamed and painful as to reſiſt the influence of poultices and the other means we have recommended.

In every ulcer of this kind, as ſoon as the diſeaſed part of the bone is extracted, the ſore which remains is to be treated in the manner we have already directed for the management of that ſpecies of ulcer, to which, at the time, it may appear to belong.

SEC-

SECTION VIII.

Obſervations on the Cancerous Ulcer.

§ 1. *Of the Symptoms and Diagnoſis of the Cancerous Ulcer.*

CANCERS have been generally divided into occult and open. By the former are meant ſuch hard ſcirrhous ſwellings as are attended with frequent ſhooting pains, and which at laſt generally terminate in the latter.

By the open cancerous ulcer, we underſtand that ſpecies of ſore, which commonly ſucceeds to hard ſwellings of the glands; although, in ſome inſtances, it occurs without any previous hardneſs. The edges

edges of the ulcer are hard, ragged, and unequal, very painful, and reverſed in different ways, being ſometimes turned upwards and backwards, and on other occaſions inwards. The whole ſurface of the ſore is commonly very unequal: in ſome parts there are conſiderable riſings, whilſt in others there are deep excavations. The diſcharge for the moſt part is a thin, dark-coloured, fetid ichor; and is often poſſeſſed of ſuch a degree of acrimony, as to excoriate, and even to deſtroy, the neighbouring parts. In the more advanced ſtages of the diſeaſe, too, by the eroſion of blood-veſſels which occurs, conſiderable quantities of pure blood are ſometimes diſcharged.

Patients labouring under real cancerous affections, univerſally complain of what they term a burning heat over the whole ulcerated ſurface; which, in general, it may be remarked, is the moſt tormenting ſymptom that attends the diſorder; and thoſe ſhooting lancinating pains, which were very diſtreſſing even in the more occult

cult ſtate of the complaint, become now a great deal more ſo.

Theſe are the moſt frequent ſymptoms which attend an ulcerated cancer; but the appearances of ſuch ſores are ſo various, that it is almoſt impoſſible in any deſcription to comprehend every one. When two, three, or more, however, of thoſe we have enumerated, concur together in the ſame ulcer, we may always be pretty certain of its being of the cancerous kind.

The ſituation too of ſuch ſores, affords ſome aſſiſtance in the diagnoſis: for tho' cancers do no doubt occur in every part of the body, yet by far the greateſt proportion happen, either evidently in the ſubſtance of one or more glands, or in thoſe ſituations where glands are known to be moſt numerous. Thus, ſix times the number of cancerous affections, we imagine, occur in the lips and in the breaſts of women, than in all the reſt of the body beſides.

§ 2.

§ 2. *Of the Cauſes of Cancerous Diſorders.*

Various circumſtances have been mentioned by authors as tending to produce cancer, and an equal number of remedies have been recommended for the cure of it: But the little ſucceſs which ſtill attends our treatment of the diſeaſe, ſhows evidently, that the ideas which have been adopted, and the remedies propoſed, have been more founded on theory alone, than on practice and obſervation; for there is no diſeaſe to which the human frame is liable, that has baffled the power of art more than that which we are now conſidering.

Although a thorough acquaintance with the theory of the diſorder might probably throw ſome light upon the method of cure; yet as any thing that has hitherto been offered, or perhaps as yet diſcovered upon this ſubject, ſeems to be merely ſpeculative, and not ſupported by experience, any account we could give of it here, would not prove either entertaining or inſtructive. Before going farther, however, it would ſeem

ſeem to be of conſequence, to examine with accuracy the different opinions of practitioners, with reſpect to cancers being a general diſorder of the ſyſtem, or merely a local affection.

This is a point, we may remark, of much importance in practice: for if it were once eſtabliſhed, that cancers are originally local affections only, no objection could then be made to their cure by extirpation, as at preſent there is by many, who contend, that cancers, in every inſtance, proceed originally from ſome diſorder in the general ſyſtem; and conſequently, that their removal can never have any other effect than to make the diſeaſe again break out in the ſame or in ſome other part of the body. And this they are much confirmed in, from attending to the little ſucceſs which is commonly derived from the extirpation of cancers; the diſorder, as is alleged, generally returning, in by far the greateſt proportion of all that are cut.

If this argument were founded in fact, it would no doubt merit ſome attention; though,

though, even in this caſe, it ought not to be conſidered as concluſive againſt the operation, as will hereafter more evidently appear. It will ſoon however be demonſtrated, and to many indeed is already known, that a much greater proportion than what we have mentioned, recover and do well after the extirpation of cancers; and it is probably the fault of ſurgeons, or of patients, only, who generally delay the operation too long, that the number of thoſe who recover is not much larger than hitherto it has ever been.

It is of the more importance to have the point in queſtion determined, as the only account of the ſucceſs from extirpation, which, till lately, has appeared in this country, gives ſo bad a proſpect of recovery, that I make no doubt of its having been the means of deterring many patients from undergoing a timely operation; which, for cancerous complaints, is the only remedy to be depended on with which we are as yet acquainted.

It is very probable, too, that the ſame publica-

publication, as coming from great authority, has had no inconfiderable influence, even with practitioners, in making them much more backward in undertaking the extirpation of cancers, than they otherwife probably would have been.

The publication alluded to, is that of the late juftly efteemed Dr ALEX. MONRO, in Vol. V. of Edinburgh Medical Effays; where the Doctor fays, "Of near "fixty cancers which I have been prefent "at the extirpation of, only four patients "remained free of the difeafe at the end "of two years: three of thefe lucky peo-"ple had occult cancers in the breaft, and "the fourth had an ulcerated cancer on "the lip."

The Doctor likewife obferves, that of the few he had an opportunity of feeing the difeafe relapfe in, it was always more violent, and made a quicker progrefs, than it commonly did in others on whom no operation had been performed. He therefore propofes by way of queftion, "Whe-"ther ought cancerous tumors to be ex-

"tirpated, or ought the palliative method "only to be followed when they cannot be "reſolved?" and, upon the whole, he concludes againſt their extirpation, except in ſuch as are of the occult kind, in young healthy people, and that have been occaſioned by bruiſes or ſome other external cauſes. In all other caſes, the Doctor obſerves, it ſhould be the patient's earneſt intreaty only, after the danger of a relapſe has been explained, that ſhould make a ſurgeon undertake the operation.

That Dr Monro, from obſerving the diſeaſe return ſo frequently, ſhould be of this opinion, is not in the leaſt ſurpriſing: and if no better ſucceſs ſhould, in general, be found to attend the extirpation of cancers, it would no doubt be an objection to the practice; and this eſpecially, if all the caſes which relapſe, ſhould be attended with more inveterate and more painful ſymptoms, than they either were previous to the operation, or than they probably ever would have been if the tumors had not been extirpated.

But

But the experience of many practitioners ſince Dr Monro's publication, has been attended with much greater ſucceſs; and one late publication upon the ſubject, of which we ſhall afterwards take notice, puts it beyond a doubt, that a much greater proportion have recovered from cancers by means of extirpation, than of thoſe which were treated in the ſame manner in the courſe of his experience. It will not therefore appear to be improper, to attempt to diſcover the reaſon of the Profeſſor's great want of ſucceſs in ſuch caſes, in compariſon with what others have met with: and this, it is preſumed, will not be difficult to do.

It may, I think, be conſidered as certain, that the ſooner cancerous caſes are operated upon after their appearance, the greater is the chance of the extirpation's proving effectual, and vice verſa. Now, it is exceedingly probable, that the high rank which Dr Monro bore in his profeſſion, both as an anatomiſt and ſurgeon, would be the means of his being applied to for

more bad and old cafes of cancer, as well as of other complaints, than perhaps any other practitioner of his time. Patients in the country, with flight cafes of cancer, have them generally taken off by their own furgeons; but whenever they become of a more inveterate nature, by long ftanding or otherwife, patients always refort to a town; to the capital, when they can conveniently do fo; and there the moft eminent in his profeffion is naturally applied to. This being the cafe, it is not furprifing that very little fuccefs attended many of the operations performed in fuch cancerous cafes as occurred to Dr Monro. From the caufe we have mentioned, a great proportion of thefe would be of the worft kind; fo that we need not wonder either at the bad fuccefs of any operations which were advifed, or at the opinion which the Doctor afterwards adopted on the fubject.

Such unfavourable cafes as thofe we have reprefented, it is probable, for the reafons alleged, would moft frequently occur

occur in Dr Monro's private practice; and in his attendance on the Infirmary, he would, in general, meet with very similar ones. For, in every hospital, it is commonly the worst cases chiefly that are to be met with; as, before application is made there, private surgeons are always consulted, who, when an operation is to take place, if the case does not appear to be desperate, and if any reputation is likely to be got from it, generally retain the patient under their own management. And, on the contrary, when the disease is evidently of an inveterate nature, and when an operation therefore would probably be attended with much risk, the patient is always recommended to a public hospital. So that no fair judgment, from the result of such experience, in cancerous cases especially, can ever be formed, unless at the same time these different circumstances be properly attended to, and due allowance be made for them.

This, in my opinion, is the only way in which the great want of success which attended

tended the extirpation of cancers in the courſe of Dr Monro's experience, can be properly accounted for ; and it explains it, I think, in a very ſatisfactory manner : ſo that all the concluſion which can be drawn from this part of the above-mentioned paper is, that there is very little chance of ſucceſs from extirpation in the more advanced ſtates of cancer ; a circumſtance which ought, therefore, to make us have recourſe to that operation in the earlieſt ſtages of the diſeaſe, when in general there would not, probably, be much chance of its frequently failing.

Such expectations will probably, by many, be conſidered as by much too ſanguine ; and they no doubt would be ſo, if the ſucceſs which in general attends the operation, was all that could be attained : but its proving, for the moſt part, ſo unſucceſsful, ſhould by no means be imputed either to the nature of the diſeaſe, or to the fault of the remedy ; but entirely to its being, in by much the greateſt number of caſes, delayed too long, till the ſyſtem

ſtem has become ſo much infected, that we ſhould rather wonder at the operation's ſucceeding ſo frequently, as it is, even in the general courſe of practice, found to do.

In confirmation of the opinion we have endeavoured to ſupport, it is not thought improper here to introduce a very ſhort abſtract from a late publication on cancers formerly alluded to, by the late Mr James Hill, an eminent ſurgeon in Dumfries, who, in the courſe of a very extenſive practice, had more experience in cancerous caſes than often falls to the ſhare of one man: So that to ſuch as have not yet peruſed Mr Hill's book, it will not probably appear to be ſuperfluous that we ſhould inſert here a ſhort extract from his obſervations on theſe complaints.

In the year 1772, the date of this publication, Mr Hill had extirpated from different parts of the body, eighty-eight genuine cancers, which were all ulcerated except four; and all the patients, except two, recovered of the operation.

Of the firſt forty-five caſes, only one proved unſucceſsful; in three more, the cancer broke out again in different parts; and in a fifth, there were threatenings of ſome tumors at a diſtance from the original diſeaſe. Theſe tumors, however, did not appear till three years after the operation, and the woman was carried off by a fever before they had made any progreſs. All the reſt of the forty-five continued well as long as they lived; or are ſo, ſays Mr Hill, at this day. One of them ſurvived the operation above thirty years; and fifteen were then alive, although the laſt of them was cured in March 1761.

Of the next thirty-three, one lived only four months; and in five more the cancer broke out afreſh, after having been once healed. The reaſon why, out of forty-five caſes, only four or five proved unſucceſsful, and ſix out of thirty-three, was as follows.

"The extraordinary ſucceſs I met with," continues our author, "made cancerous patients reſort to me from all corners of the

the country, ſeveral of whom, after delaying till there was little probability of a cure by extirpation or any other means, forced me to perform the operation contrary both to my judgment and inclination."

Upon a ſurvey in April 1764, made with a view to publication, the numbers ſtood thus: Total cured of different ages from eighty downwards, ſixty-three; of whom there were then living, in all thirty-nine. In twenty-eight of that number the operation had been performed more than two years before, and in eleven it had been done in the courſe of the two laſt years.

So that, upon the whole, after a courſe of thirty years practice, thirty-nine of ſixty-three patients were alive and ſound; which gives Mr Hill occaſion to obſerve, that the different patients lived as long after the extirpation of the cancers, as, according to the bills of mortality, they would have done, had they never had any cancers, or undergone any operation.

The remaining twenty-five, which com-

pletes

pletes the eighty-eight, were cured ſince the year 1764. Twenty-two of theſe had been cured, at leaſt, two years; and ſome of them, it may be remarked, were ſeventy years, and one ninety years old.

In the year 1770, the ſum of the whole ſtood thus. Of eighty-eight cancers, extirpated at leaſt two years before; not cured, two; broke out afreſh, nine; threatened with a relapſe, one; in all twelve, which is leſs than a ſeventh part of the whole number. At that time there were about forty patients alive and ſound, whoſe cancers had been extirpated above two years before.

I have been the more particular in giving this account of Mr Hill's ſucceſs in cancerous caſes, as it is the lateſt, and perhaps the moſt conſiderable, even in point of number, that the public was ever favoured with: and I am the more readily induced to it from having been preſent at a conſiderable number of the operations; and from knowing that no fallacy or miſtake could occur in the relation, Mr Hill having

having been ſo exact, as to keep a regiſter of every caſe of much importance that came under his management.

From theſe and many other authenticated facts, which if neceſſary might be adduced, of the ſucceſs attending the extirpation of cancers, there is, it is preſumed, very great reaſon for conſidering this diſeaſe, in general, as a local complaint, not originally connected with any diſorder of the ſyſtem; and that a general cancerous taint ſeldom, or perhaps never, occurs, but in conſequence of the cancerous virus being abſorbed into the conſtitution from ſome local affection. This, in every caſe of real cancer, or rather in ſuch ſcirrhoſities as from their nature are known generally to terminate in cancer, ſhould certainly determine us to have recourſe to extirpation as early as poſſible; and if this was done ſoon after the appearance of ſuch affections, or before the formation of matter takes place, their return, as was already obſerved, would probably be a very rare occurrence.

The

The particular nature of the cancerous virus, I do not pretend to know; nor will it perhaps be ever diſcovered: but it is not unreaſonable to ſuppoſe, that external accidents merely, may produce ſuch an effect upon particular parts, as to induce the formation of a matter, even as acrid as that of cancers appears to be.

Thus we have daily inſtances in which vitiated ſores produce very acrid and even corroſive matters, which, from what we have already remarked in ſome of the preceding ſections, could not probably have exiſted previouſly in the blood: And, if that is the caſe, why may not ſome peculiar affection of a part contribute to the formation of a cancerous matter? The one may be conceived *à priori*, juſt as probably to occur as the other; and it does, we apprehend, as certainly happen.

The ordinary ſituation of cancers, too, may in ſome meaſure account for the diſcharge afforded by them being even of a more acrid and virulent nature, than that of any other kind of ulcers. For as they are in general

general ſeated in the glands, which are known, even in much more ſimple affections, never to produce good matter, it is not at all improbable, but, by ſome peculiar irritation applied to a gland, ſuch a diſpoſition in it may be induced, as to cauſe the formation of the worſt and moſt inveterate of all matters, namely, the cancerous; which being allowed to remain, and abſorption to take place, the whole ſyſtem comes, in courſe of time, to be as it were ſaturated with it; and, thus, a general affection, or what may be termed the Cancerous Diatheſis, is at length produced, from what at firſt was only a local ulcer.

We have thus endeavoured to ſhow, that, by an external accident merely, cancer may be produced, without having recourſe to the ſuppoſition of any internal affection. But, ſay thoſe who aſſert that the latter in ſuch caſes always takes place, "Although external violence does ſometimes ſeemingly end in cancer; yet that diſorder would never be produced in this manner, unleſs a prediſpoſition to ſuch com-

complaints subsisted in the habit at the same time; and besides, although cancers do, from that circumstance, on some occasions, succeed to external accidents, yet by far the greatest number of cancerous disorders occur without the intervention of any seeming violence whatever."

That this is the case, will not by any practitioner be denied: but it may, however, be explained upon very different principles from what it commonly has been; and in a manner, too, that will rather tend to confirm the opinion of cancers proceeding, in general, from a local affection.

In by much the greatest number of cancerous cases, as we have already observed, the glands appear evidently to be the seat of the disease; which renders it probable, that, in all, they are the parts originally affected; and that the neighbouring soft parts come only to suffer in consequence of their vicinity to these: or perhaps, in some few cases, cancerous ulcers may break out in parts not glandular, from

from the whole ſyſtem being much infected by the abſorption of diſeaſed matter from the long continuance of a cancerous gland in any one part.

This being the caſe, we may very eaſily conceive how ſingle glands may frequently become affected, without any evident external cauſe intervening: for the circulation in the glands, being carried on by a ſet of veſſels much more minute than thoſe with which other parts of the body are ſupplied, obſtructions will much more readily and eaſily occur in them, than in other parts; and a gland being once obſtructed, the ſtimulus and irritation thereby occaſioned, may, it is probable, have nearly the ſame effects, and be attended with the ſame conſequences, as are commonly experienced from a blow or a bruiſe.

In this manner, too, may be accounted for, without having recourſe to any peculiar cancerous diſpoſition in the ſyſtem, all thoſe caſes of cancer that occur from the improper management of impoſthumes in the

the breaſts of nurſes and of lying-in women; as likewiſe thoſe which ſo frequently happen to women about that period at which the menſes leave them; and alſo ſuch as ſometimes ſucceed to fevers and other diſorders, and of which they ſeem, as it were, to be the terminations.

In every affection originating from any of theſe cauſes, there is always a determination of blood, or of ſome other fluid, to the affected part: which, when it happens to be the cellular ſubſtance, an abſceſs is produced; when to the pleura, to the membranes of the eye, or any ſuch parts as from their firmneſs of texture do not favour the extravaſation of fluids, violent inflammations are the conſequence; and, when the ſubſtance of a gland happens to be the part a determination is made to, it being neither, as is found from experience, ſo proper as the cellular membrane for the formation of pus, nor from its ſoftneſs ſo ſuſceptible of inflammation as a membrane, an indolent hard ſwelling, called Scirrhus, comes, merely by the obſtruc-

ſtruction and diſtenſion of its different veſſels, very naturally to be produced. And a tumor of this kind having once taken place, it generally remains for ſome time in its original indolent ſtate, till, by increaſe of bulk, or perhaps from external violence, an irritation ſufficient to excite ſome conſiderable degree of inflammation is applied; which, from the nature of the affected part, not being able to produce ſuppuration, generally at laſt terminates in what we call Cancer, as in other ſoft parts of the body it would in gangrene, if not previouſly reſolved, or brought to ſuppuration.

This objection, therefore, of cancers appearing more frequently without than with the intervention of any external accident, does not, when properly examined into, appear to be of any importance: and from the whole of what has been ſaid, this concluſion, I think, may be drawn, That cancers, in very few inſtances, perhaps in none, ever ariſe from a general affection of the ſyſtem; but, on the contrary, are, at

their firſt appearance, almoſt always local affections only.

Such a concluſion, were we better acquainted with the nature of the diſorder than as yet we are, would, it is probable, appear to be founded in fact. The reaſons for adopting it, appear to be ſtronger than any that have been adduced in ſupport of the contrary opinion : And, at any rate, its being admitted can never prove ſo detrimental to mankind, as if the contrary opinion was univerſally to prevail; which, by having the effect of preventing patients with cancerous diſorders from having recourſe to extirpation, would, as long as it prevailed, be always the means of their neglecting the only remedy which, ſo far as we know, ought ever to be truſted.

With reſpect to that circumſtance, taken notice of in the paper lately quoted from Dr Monro, of cancerous diſorders being always more violent, and making a quicker progreſs upon returning after extirpation, than in patients on whom no operation had been

been performed, this may in ſome inſtances be the caſe; but I know from experience, that it is not always ſo: and although it ſhould in reality be found to be ſo on many occaſions, yet ſtill it is no valid objection to the practice of extirpation; and would appear only to be an additional reaſon for having recourſe to the operation at an early period of the diſeaſe, in order to guard as much as poſſible againſt the poſſibility of a return.

§ 3. *Of the Treatment of Cancerous Diſorders.*

From all that has been hitherto ſaid, it is evident, that very little is to be expected in the treatment of cancerous diſorders from internal medicines: Nor are external applications, farther than with a view to palliate particular ſymptoms, ever to be depended on.

A great many remedies have at different times been recommended to the public as cures for cancer: but none, it is probable, was ever more depended on than cicuta;

a remedy, however, which, in this country, has by no means anſwered the expectations that were formed of it.

Its want of efficacy, indeed, has now proved ſo univerſal, that there ſeems little occaſion here to ſay any thing with reſpect to it: I ſhall only juſt obſerve, that although, in a great number of inſtances, I have known it exhibited with all the attention to its preparation that could poſſibly be given; yet, in real cancers, I never knew it, nor indeed any other remedy, produce a cure.

In ſimple caſes of indurated glands, I have frequently, indeed, known the uſe of cicuta attended with very good effects; and in the advanced ſtages of cancer, when exciſion was determined againſt, I have, on different occaſions, ſeen it uſeful, both by relieving pain, and procuring from the ſores a better and leſs acrid diſcharge than could otherwiſe be obtained. But whenever there is no valid objection to it, the extirpation of a cancer, as being the moſt certain remedy, is that which we ſhould

ſhould have recourſe to as ſoon almoſt as the diſeaſe is diſcovered.

With reſpect to the mode of operating in extirpating cancerous affections, very full information may be obtained from the ſeveral ſyſtematic writers on ſurgery: it may not be improper, however, in this place, to introduce a few general obſervations on the ſubject. And,

1. The removal of cancerous diſorders, even in the ſlighteſt and moſt trivial caſes, ſhould be always effected with the ſcalpel in preference to cauſtic; the uſe of which, though formerly much recommended by ſome authors, and ſtill by ſome practitioners adhered to, ought, for very obvious reaſons, to be entirely laid aſide.

The irritation generally occaſioned by every application of the cauſtic kind, together with the pain and inflammation which commonly enſue, are, in cancerous caſes eſpecially, very ſtrong objections againſt their ever being uſed. Plunket's remedy, which is evidently of a cauſtic nature, and which we have much reaſon to think

conſiſts chiefly of arſenic, has, no doubt, like every other medical ſecret, been greatly extolled; but it is not probable, if the different caſes it has been uſed in were all fairly examined into, that it would be found to have ever produced any advantages which might not more ſpeedily, and with more certainty, have been obtained from the ſcalpel.

2. In whatever part of the body the diſorder is ſituated, every part that has the leaſt appearance of diſeaſe ſhould be taken off; and if, even in the courſe of the ſubſequent dreſſings, any cancerous portions may appear to have been left, theſe ſhould alſo be directly extirpated, otherwiſe the diſorder will juſt as certainly return as if no part of it had been removed; and, from want of proper attention to this circumſtance, the want of ſucceſs in this operation, I have no doubt, may, on many occaſions, have ariſen. Even every indurated gland which appears in the neighbourhood of a cancerous ſore, ſhould juſt as certainly be taken away as the

the ulcer itſelf; for if it be allowed to remain, there will ſeldom be much chance of ſucceſs from the operation.

When the complaint is ſeated in the breaſt, although perhaps part of the mamma only may be affected, the whole of it ſhould be removed: for, leaving part of it, is not only attended with no advantage, but proves afterwards, as I have often ſeen, very inconvenient to the patient.

Although it is always proper, however, to extirpate every part that is really diſeaſed, none of the external teguments ſhould be ever unneceſſarily deſtroyed, nor ſhould more of them be taken away than is altogether requiſite: for the ſmaller the cicatrix that remains after the part is cured, the leſs will be the conſequent irritation: and perhaps from this circumſtance, too, the chance of the diſeaſe returning, may be in ſome meaſure leſſened.

At leaſt, in the Infirmary of this place, much greater ſucceſs has of late attended the extirpation of cancerous lips, than was

ever formerly experienced; and the only evident reaſon for it is, that during that period, in the greateſt number of caſes, the operation has been performed in the manner commonly practiſed for the cure of the hare-lip; whereby not only a very narrow cicatrix is left, but the deformity attending it is very inconſiderable: and another very agreeable circumſtance to the patient, is, that he can always retain his ſpittle, or any other liquid, juſt as well as before the operation; which never can be the caſe when any conſiderable portion of the under-lip has been extirpated in the ordinary manner.

It is proper in this place to obſerve, too, that very extenſive cancers in theſe parts admit of being treated in this manner; for the lip being compoſed of parts which yield very conſiderably, it cannot, but from experience, be imagined, how far they may be brought to ſtretch. In ſome inſtances, where more than half of the under-lip was taken away, I have brought

the

the remaining parts to ſtretch ſo far, as to admit of a cure being effected in the hare-lip form, and with very little deformity being produced. And, in the ſame manner, in cancers of the mamma, when the external teguments are not wholly diſeaſed, ſo much of them may, in general, be preſerved, as will be ſufficient for covering a great part of the wound occaſioned by the operation; a circumſtance which always renders the cure both more quick and more certain than it otherwiſe would be.

When the ſkin and teguments which have been preſerved, can be retained in their ſituation by the proper application either of the uniting bandage, or of pieces of adheſive plaſter, it ought always to be done; but in general it anſwers better to ſecure any looſe portions of the parts which have been divided, by means either of the interrupted or twiſted ſutures. The difference of pain produced by this method is inconſiderable; and we are always more certain of ſecuring the ſkin with ligatures, than by any other means.

In

In the ordinary method of extirpating cancerous breaſts, a very extenſive ſore is always left: by the retraction of the divided ſkin it frequently appears to be at leaſt twice the ſize of the diameter of the tumor newly removed: by this means a very copious ſuppuration takes place, which in weakly conſtitutions proves always very prejudicial; a cure is tedious in accompliſhing; and the cicatrix which remains, being of a conſiderable extent, the parts are afterwards very liable to injuries. Inſtead of this, no more ſkin ſhould be removed than is really diſeaſed: If a ſimple inciſion be made through the ſkin and cellular ſubſtance along the courſe of the ſwelling, all the ſound teguments which cover it may thus be ſeparated from it; and on the tumor being extirpated, and the teguments again replaced, they may be retained in their ſituation in the manner we have mentioned, either by ligatures, by the uniting bandage, or with the aſſiſtance of adheſive plaſters. In this manner I have on different occaſions accompliſhed

accompliſhed the cure of ſores remaining after the extirpation of cancerous breaſts, in the ſpace of three weeks or a month; which, in the uſual method of performing this operation, would not have healed in leſs than eight or ten weeks.

3. After all the cancerous parts have been removed, if the ſore cannot be entirely covered by ſuch portions of the ſkin as have been ſaved, and if any conſiderable quantity of blood is diſcharged by the ſmaller veſſels, the remaining wound ſhould be dreſſed in the uſual manner with dry lint; but when this does not happen, no dreſſing anſwers ſo well as pledgits of one or other of the mild ointments we have already recommended: and when the dreſſings can be eaſily removed, by a free ſuppuration coming on, the ſore being now in a ſtate exactly ſimilar to a ſimple ulcer from any other cauſe, is to be treated accordingly, and a cure to be promoted as quickly as poſſible.

4. But ſome little time before the ſore heals up, an iſſue ſhould be introduced, ſo as that it may come to diſcharge freely

before

before the cicatrix is quite formed. This, when the complaint has been of long ftanding is particularly requifite ; as alfo, when it feems to have been occafioned by any particular determination, in confequence of a redundancy of fluids in the fyftem, either from fuppreffed menfes, or from any other caufe. And in this way I have no doubt but an iffue may be, and frequently has been, a means of preventing the return of cancers after extirpation.

It has been fometimes advifed, as the beft method of forming fuch a drain, to keep the part open from whence a cancerous tumor has been extirpated. I fhould ftrongly fufpect, however, that the irritation produced by an iffue, directly upon the old feat of a cancer, might fometimes do mifchief: and as all the advantages attending the practice are probably to be obtained from an iffue, on whatever part it is fituated, I would therefore always advife, that the fore itfelf fhould be immediately healed up ; and that an iffue fhould be introduced, in the manner we have mentioned,

tioned, in ſome other convenient ſituation. After cancers of the breaſt, it has been a frequent practice in the Royal Infirmary here, to put a ſeton into the ſide, near to the original ſeat of the diſorder: as it has been thought to produce conſiderable advantages, and as the ſide is perhaps as convenient a ſituation for a drain as any other, it may therefore be preferred.

Theſe are the different circumſtances, in general, to be attended to in the extirpation of cancers: and as, from what has already been ſaid, the removal of the diſeaſed parts ſeems to be the only effectual remedy in every caſe of cancer, there are very few circumſtances only, which ſhould ever prevent its being put in practice: And theſe, in general, are,

1. When, by a long continuance of the diſorder, cancerous ulcers, and ſcirrhous glands, have appeared in ſeveral different parts of the body, the removal of one, or even all of theſe, as it would not probably prove effectual, ſo, in ſuch circumſtances, the

the operation, it is preſumed, ought not to be recommended.

2. When a cancerous tumor adheres ſo firmly to the parts beneath, that the whole of it cannot be removed, whilſt at the ſame time it might be dangerous to extirpate along with it thoſe parts with which it is connected, extirpation can never be adviſable. Thus cancers adhering to the trachea arteria, or to the coats of a large artery, can never, without the greateſt riſk, be extirpated.

One inſtance of the raſhneſs of a ſurgeon, in attempting an operation in ſuch circumſtances, and which was attended with effects which proved immediately fatal, came within my own knowledge. In an attempt to cut out a large ſcirrhous tumor ſeated upon, and lying immediately contiguous to, the femoral artery, and ſo high in the thigh, that a tourniquet could not be applied, the artery was unfortunately opened, and the patient died among the ſurgeon's hands.

But the attachment of cancerous tumors

mors to the circumjacent muſcles or tendons, ſhould never entirely prevent their extirpation; for conſiderable portions of theſe, it is well known, may, without much inconvenience, be taken away along with them. I have, on many occaſions, been reduced to the neceſſity of taking away large portions of the pectoral muſcle along with cancerous tumors of the mamma, without any material inconvenience enſuing from it.

There is a paper upon cancers by the celebrated Monſieur le Cat of Rouen, inſerted in the firſt volume of Memoirs of the Academy of Surgery at Paris; in which the author is clearly of opinion, that extirpation is the only remedy to be depended on, and adviſes it in the moſt deſperate caſes. On the ſubject of which we are now treating, he goes a much greater length than I could from experience venture to do: although, independently of the authority of ſuch a reſpectable author, and of the inſtances he mentions of the ſucceſs of his practice, I think

think there cannot be the leaſt doubt of its being better to follow his advice, than to allow a patient labouring under a cancer to remain with the certain proſpect of ſuffering a miſerable death, and without making trial of the only remedy which art can afford. For, however fixed a cancerous tumor may appear, if the parts to which it adheres, can without much danger be removed, and if the caſe is otherwiſe favourable, the operation ought undoubtedly to be always adviſed *.

This was my opinion ſeveral years ago, when the firſt edition of this work was publiſhed. Since that period, I have met with many inſtances of very bad cancers, particularly of the mamma; in ſome of which, attachments occurred to the periosteum of the ribs; and in others, the diſeaſe was found to extend to the correſponding

* Upon this ſubject M. le Cat expreſſes himſelf thus: "L'adherence d'un cancer *aux muſcles pectoraux, aux cotes meme*, ne ſera pas un excuſe valable, ſi *ces muſcles*, ſi *ces attaches* de la tumeur aux cotes peuvent être emportés, de façon qu'il ne reſte, que de ſain au-dela." *Loco citato.*

ſponding clavicle, and frequently by a chain of indurated glands to the very bottom of the arm-pit. Very few caſes, however, have occurred, in which, by cautious diſſection, the diſeaſed parts were not totally extirpated; and in every inſtance where this was found to be practicable, much advantage was evidently derived from it: In moſt of them, no return of the diſeaſe has been as yet experienced; and, even in thoſe which have relapſed, much relief has been derived from the operation, by the pain and miſery of the patient having been for ſome time removed by it; whilſt, in no inſtance, were the ſymptoms which enſued from a return of the diſeaſe, more ſevere, than thoſe to which the patient had been liable before any operation was adviſed.

3. But, an operation can never be adviſable, where the diſeaſed parts are ſo ſituated as to prevent their being totally extirpated; as is the caſe in cancers of the uterus, of the liver, rectum, &c.

When, from the exiſtence of one or all of theſe cauſes, a cancer cannot with pro-

priety be extirpated, the next confideration is, to palliate the different fymptoms, fo that the difeafe may be rendered as tolerable to the patient as poffible.

As, for this purpofe, the great object to be kept in view, is the abatement or prevention of pain, nothing fhould be either exhibited internally, or applied outwardly, that can have the leaft effect in raifing irritation or inflammation. So that, for diet, the lighteft vegetables and milk fhould be preferred to every thing elfe; no animal food fhould be allowed, nor fpirits, wine, or any fermented liquors; all violent exercife, and whatever, in fhort, can heat, or as it is termed inflame, the blood, fhould be carefully avoided.

The fetor attending cancerous ulcers being commonly very difagreeable, and the matter afforded by them being ufually thin and acrid, it becomes always a confideration of importance to have thefe circumftances changed, and a difcharge of a better nature induced. In this view, hemlock frequently proves ferviceable, both as

an internal medicine and as an external application. For internal uſe, there are two preparations of the remedy commonly uſed; the powder, and the extract: But as the former, when properly prepared, ſeems to poſſeſs all the virtues of the latter, and as it is not liable to ſo many accidents in the preparation, it ſhould for that reaſon be in general preferred. The extent of the doſe, and number of repetitions, can never be determined but by trial; ſome patients being able to bear three times the quantity that others can admit of: ſo that theſe circumſtances muſt always be regulated by the ſtrength of the patient, and ſtate of the ſtomach at the time.

When recent hemlock can be procured, a quantity of the juice being mixed with the common emollient poultice, makes a very convenient and effectual application for cancerous ſores; and in the winter-ſeaſon, when the juice cannot be obtained, the dry powder made into a poultice in the ſame manner, anſwers the purpoſe tolerably well.

The external uſe of cicuta proves generally more expeditious than its internal exhibition, in procuring a diſcharge of good matter; and, in this reſpect, it commonly proves more effectual too, even than the carrot poultice, ſo much recommended for this purpoſe in different kinds of ſores.

A good diſcharge being once obtained, the common unguentum cereum is the mildeſt and moſt ſimple application that can be uſed; and the parts ſhould be dreſſed with it more or leſs frequently, as the diſcharge is more or leſs copious: But the ſeveral dreſſings ſhould be performed ſo quickly as to prevent as much as poſſible the admiſſion of air, which in every ulcer, but more eſpecially in the cancerous, always produces diſagreeable effects, both in cauſing irritation, and in vitiating the nature of the diſcharge.

The violent ſhooting pains which prove always ſo tormenting in cancerous caſes, are frequently moderated by a continued uſe of cicuta; but when this effect is not obtained from it, it becomes neceſſary to have

have recourſe to opiates in large doſes, which ought to be repeated at ſuch intervals as the violence and returns of the pain may indicate. Theſe pains, too, are ſometimes relieved by the uſe of warm emollient fomentations.

By a proper attention to the different circumſtances we have taken notice of, particularly to the preſervation of a well-conditioned diſcharge, and by a well-timed uſe of opiates, very bad caſes of cancer may be ſometimes ſo far palliated, as to render them, in ſome meaſure, tolerable; though never to ſuch a degree as to prevent the ſufferers from regreting daily their not having, in due time, had recourſe to extirpation.

Various remedies have at different times been propoſed for the cure of cancers, of which, in the courſe of this treatiſe, we have taken little or no notice. Of theſe, cicuta, which we have juſt now ſpoken of, belladona, and different preparations of arſenic, have been moſt frequently employed. But although the cicuta, as

we have ſaid above, has, in ſome inſtances, been a means of producing a good diſcharge from cancerous ſores, yet neither this nor either of the others have ever, ſo far as I know, produced any permanent advantages in caſes of real cancer.—We have heard of arſenic proving uſeful in cancers, not only as an external application, but as an internal remedy: but although I have employed it in a variety of caſes, the reſult of theſe trials has never proved in any degree adequate to the accounts which have been given of it.

In a late publication on cancerous diſorders by Mr Juſtamond of London, we find an eſcharotic application much recommended. It was long employed in Vienna and other parts of Germany; and as Mr Juſtamond, whoſe experience in cancerous diſeaſes has been extenſive, ſpeaks favourably of it, it therefore merits the attention of practitioners. Although I have uſed it, however, in different caſes, I have not as yet obſerved any real advantages to enſue from it; but as no remedy ſhould be haſtily rejected,

which has been recommended by an author of reputation, I am resolved to give it a fair and impartial trial. This application is a composition of steel and sal ammoniac infused in spirit of wine, with a certain proportion of oil of tartar and spirit of vitriol. The edges of cancerous sores, as well as the hard tumors or excrescences which frequently occur in ulcers of this kind, are by Mr Justamond's method kept constantly moist with this liquid; and during the use of it, he likewise recommends an internal use of steel and sal ammoniac in the form of flores martiales.

In other species of ulcers attended with a discharge of thin fetid matter, and in which tonic remedies seem to be indicated, I have in different instances used the flores martiales with advantage; but, as I have already observed, neither this, nor any other medicine, has ever, in the course of my experience, produced any material benefit in cases of cancer.

The flores martiales, may be given either in the form of pills, or in powders. It

ſeldom produces ſickneſs, and may therefore be given in much larger doſes than are commonly employed.—The firſt doſes ſhould not exceed twelve or fifteen grains; but they may be increaſed, in a gradual manner to half a drachm or more, to be repeated three, four, or five times daily. In every caſe where ſteel medicines are found to be proper, the flores martiales, by conveying the remedy in a very ſubtile form, is perhaps preferable to any other preparation of it*.

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* To ſuch as have not an opportunity of peruſing Mr Juſtamond's treatiſe upon this ſubject, it may prove acceptable to have the preſcription for the liquid which he recommends ſo warmly as an application in cancerous affections. It is as follows.

℞. Ramentor. ferri lotor. et ſupra ignem in vaſe aperto ſiccatorum et minutiſſime contuſorum, ſalis ammoniaci in pulverem redacti, āā unc. iv. Mixta dentur in retortam terream optime in fundo et circumferentia lege artis minutam, imponatur hæc capellæ, admoveatur vas vitreum recipiens, quod bene lutetur: detur ignis in gradu digeſtionis; et dum retorta calefieri incipit, augeatur ſucceſſive ad ſublimationis, finitaque ſublimatione ad calcinationis, gradum. Hoc facto

SECTION IX.

Obſervations on the Cutaneous Ulcer.

§ 1. *General Remarks on Cutaneous Affections.*

THERE are few complaints, which are leſs underſtood by practitioners, than the different diſorders to which the ſkin is liable. This, indeed, is in ſome meaſure

facto ſucceſſive refrigeratione committatur retorta, et ex refrigerata fractaque accipiatur calcinatum in fundo hærens, caput mortuum teratur, et ſubigatur minutiſſime in mortario lapideo; dein ſubactum imponatur in vas vitreum, et affundantur ſpiritus vini rectificatiſſimi empyreumaticum odorem non redolentis lb. ij. Agitentur ſæpius primis octo horis: poſt viginti quatuor horas agitatis denuo inſtilletur tribus quatuorve inter-

meaſure the caſe, both with reſpect to ſuch as are attended with fever, and thoſe that are not: it is, however, more eſpecially ſo with the latter, which only are to be here taken notice of; thoſe of the exanthematous kind, as they are termed, belonging more properly to the province of medicine.

The appearances of ſuch complaints are ſo various, and the deſcriptions given of them by different authors ſo confuſed and

interſtitiis obſervatis, acerrimi, ut vulgo vocatur, olei vitrioli nigri unc. i.—ad quamvis inſtillationem ſemper mixta agitando; deinde in quiete permittantur per viginti quatuor horas, his elapſis decantetur tinctura, reſiduo vero in fundo affundantur prioris ſpiritus vini lb. ij. Agitentur iterum pluries, dein extractio de novo relinquatur per viginti quatuor horas; his tranſactis inſtilletur iterum, ut prius, olei vitrioli ſupradicti unc. i. Effervefcentia finita vero infundantur ſpiritus tartari ſimplicis unc. iv. Agitentur, et finita agitatione aliquoties repetita relinquantur in vaſe per viginti quatuor horas; his elapſis ſecunda hæc ſolutio miſceatur priori decantatæ et optime ſimul agitentur, tunc parata eſt ad uſum PANACEA NOSTRA ANTI-CANCROSA.

This was originally publiſhed by Dr Francis Xaverius de Mare, in a treatiſe which he publiſhed ſome years ago at Vienna.—He had long kept this liquid a ſecret, but at laſt made it public in the year 1767.

and intricate, that it is ſcarcely poſſible, from the ſeveral writings on the ſubject, to collect any thing ſatisfactory. By different writers, different names have been given to the ſame appearances; many complaints of this kind are enumerated by old writers, which are now never to be met with; and diſeaſes of a ſimilar nature, though ſtill, in ſome reſpects, different, have been regularly deſcribed by modern authors, which do not appear, in ancient times, to have been at all known. It is much to be wiſhed, therefore, that, by ſome able practitioner, a thorough inveſtigation of the ſubject was attempted, as there does not appear to be any part of medicine more defective than that which relates to the hiſtory and theory, as well as to the treatment, of cutaneous diſorders.

To give a particular detail of all the varieties of theſe complaints, would of itſelf require an extenſive volume, and it would alſo be entirely foreign to our purpoſe; all that is here propoſed, being to give a few general obſervations upon ſuch

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eruptions of this kind, as, when neglected or improperly treated, are apt to give riſe to troubleſome ulcers.

A great many complaints of the eruptive kind, have, by different authors, been deſcribed under the term Herpes, from their being very apt to ſpread, or to creep, as it were, from one part to another; and by this appellation have been diſtinguiſhed, by late writers, ſeveral diſorders which, though not entirely the ſame, yet bear a conſiderable reſemblance to the lepra of the Greeks, and to the ſeveral ſpecies of impetigo enumerated by Celſus. As none of theſe, however, are now in their true form ever to be met with, at leaſt in theſe climates, it is not here neceſſary to enter into a particular enumeration of them; and this more eſpecially, as very minute deſcriptions of them can be found in many of the old writers, and nothing new, it is probable, can now be offered on the ſubject.

§ 2.

§ 2. *Of the different Species of Herpes.*

THERE have commonly been comprehended, it was remarked, under the term Herpes, a variety of eruptive diſorders: but many of the diſtinctions in theſe are taken from very trivial circumſtances, and ſuch as do not in any reſpect influence the treatment; and on examination it will be found, that all the varieties of importance may be comprehended in the four following ſpecies, viz. the Herpes Farinoſus, Puſtuloſus, Miliaris, and Exedens.

The firſt of theſe, viz. the Herpes Farinoſus, or what may be termed the dry Tetter, is the moſt ſimple, both in its nature and treatment of all the ſeveral ſpecies. It appears indiſcriminately in different parts of the body; but moſt commonly on the face, neck, arms, and wriſts, in pretty broad ſpots of ſmall red pimples. Theſe generally very itchy, though not otherwiſe troubleſome: and after continuing a certain time, they at laſt fall off in the form of a white powder ſimilar to fine bran, leaving

leaving the ſkin below perfectly ſound; and, again returning in the form of a red efflorefcence, they fall off and are renewed as before.

The ſecond ſpecies of the diſorder, viz. the Herpes Puſtuloſus, appears in the form of puſtules, which originally are ſeparate and diſtinct, but which afterwards run together in cluſters. At firſt they ſeem to contain nothing but a thin watery ſerum, which afterwards turns yellow; and, exſuding over the whole ſurface of the part affected, it at laſt dries into a thick cruſt or ſcab: When this falls off, the ſkin below frequently appears entire, with only a ſlight degree of redneſs on its ſurface; but, on ſome occaſions, when the matter has probably been more acrid, upon the ſcab falling off, the ſkin is found ſlightly excoriated. Eruptions of this kind appear moſt frequently on the face, behind the ears, and on other parts of the head; and they occur moſt commonly in children.

The third ſpecies of Herpes, viz. the Miliaris, breaks out indiſcriminately over the whole

whole body; but more frequently about the loins, breaſt, perinæum, ſcrotum, and inguina, than in other parts. It generally appears in cluſters, though ſometimes in diſtinct rings or circles, of very minute pimples, which, from their reſemblance to the millet ſeed, has given riſe to the denomination of the ſpecies. The pimples are at firſt, though ſmall, perfectly ſeparate; and contain nothing but a clear lymph, which, in the courſe of the diſeaſe, is excreted upon the ſurface, and there forms into ſmall diſtinct ſcales: theſe at laſt fall off, and leave a conſiderable degree of inflammation below, that ſtill continues to exſude freſh matter, which likewiſe forms into cakes, and ſo falls off as before.

The itching in this ſpecies of the complaint is always very troubleſome; and the matter diſcharged from the pimples is ſo tough and viſcid, that every thing applied to the part adheres in ſuch a manner, as to occaſion a great deal of trouble and uneaſineſs on its being removed.

The different ſpecies of herpes are commonly,

monly, in England, diſtinguiſhed by the names of Tetter, Shingles, and Ringworm; but the laſt is moſt frequently applied to the variety of the diſorder which we are now conſidering.

The Herpes Exedens, ſo called from its deſtroying or corroding the parts which it attacks, appears commonly at firſt in the form of ſeveral ſmall painful ulcerations, all collected into larger ſpots of different ſizes and of various figures, with always more or leſs of an eryſipelatous-like inflammation. Theſe ulcerations diſcharge large quantities of a thin, ſharp, ſerous matter; which ſometimes forms into ſmall cruſts, that in a ſhort time fall off; but moſt frequently the diſcharge is ſo thin and acrid, as to ſpread along the neighbouring parts, where it ſoon produces the ſame kind of ſores.

Though theſe excoriations or ulcers do not, in general, proceed farther than the cutis vera; yet ſometimes the diſcharge is ſo very penetrating and corroſive, as to deſtroy the ſkin, cellular ſubſtance, and, on

ſome

ſome occaſions, even the muſcles themſelves. It is this ſpecies of the diſorder which ſhould properly be termed the Depaſcent or Phagedenic ulcer, from the great deſtruction of parts which it very frequently occaſions; but, by a piece of very great impropriety, ulcers of the herpetic kind have moſt commonly been ſuppoſed to be connected with ſcurvy; and have, therefore, by practitioners in general, been uſually diſtinguiſhed by the appellation of Scorbutic. Whereas, there is nothing more certain, than that herpes is a complaint which is generally, if not always, connected with that ſtate of the ſyſtem, probably the moſt oppoſite of any to that which takes place in true ſcurvy, I mean the plethoric and inflammatory; whilſt in ſcurvy a high degree of putreſcency is well known to conſtitute the very exiſtence of the diſeaſe.

And beſides, the real ſcorbutic ulcer, hereafter to be deſcribed, exhibits appearances perfectly different from the diſorder now under conſideration; inſomuch that

there is ſcarcely a poſſibility of miſtaking the one for the other; and the remedies neceſſary in the two diſeaſes are juſt as oppoſite as their ſeveral ſymptoms and appearances are different.

This ſpecies of herpes appears, at times, in every part of the body, but moſt frequently about the loins, where it often ſpreads to ſuch a degree as to ſurround the whole circumference of the waiſt. It ſeems to be eaſily communicated by contagion, that is, by the application of the virus, either through the intervention of clothes, ſpoons, or other table utenſils. This is indeed the caſe, in ſome degree, with every ſpecies of herpes; I have known inſtances even of the firſt or dry ſpecies of the diſorder proving ſo, which would not *a priori* be ſo readily ſuſpected.

§ 3. *Of the Cure of the Cutaneous Ulcer.*

It was already remarked, that in the deſcriptions given of theſe diſorders, there is very little accuracy to be met with amongſt authors. The ſame confuſion and uncertainty

uncertainty likewise occur in the method of cure.

It was always, till lately, believed, that eruptive diseases of this nature could never appear but in consequence of some general morbid affection of the system; and accordingly, a great variety of internal remedies have been recommended by almost every author who has written upon the subject. It has even been commonly considered as an unsafe and dangerous practice to attempt the cure of such eruptions, in any other way than by correcting the original disorder of the fluids, which at first was supposed to have produced them.

It is somewhat singular, however, that the opinion should have remained so long uncontroverted by regular practitioners; as, from the writings of many old authors, it appears that complaints of this kind were constantly and easily cured, as they still are by every itinerant practitioner, with local external applications only.

This, we should imagine, ought very soon to have overturned the general notion

which prevailed with reſpect to the nature of theſe diſorders, and which ſeemed all along to have no other foundation than antiquity for its ſupport. Modern practitioners, however, not being ſhackled by ſuch authority, have, in many inſtances, ventured to diſpute, and boldly to deviate from, the opinions of their predeceſſors; and the improvements which have univerſally reſulted from ſuch a free ſpirit of inquiry, have never yet given them reaſon to repent their having done ſo.

This, in no inſtance, has been more remarkable, nor attended with better effects, than in the treatment of cutaneous diſorders, which, from having been very perplexed and intricate, will ſoon, it is hoped, become a very ſimple and eaſy part of the practitioner's employment.

Inſtead of the tedious and debilitating courſes of medicines which patients went through formerly, and which perhaps they are ſtill too frequently obliged to undergo, it is now found, that the greateſt number of theſe complaints are more certainly and

ſpeedily

ſpeedily removed by the uſe of local remedies merely, than they ever are by a contrary courſe. This, probably, is one reaſon, amongſt others, why all complaints of this nature are claſſed among local diſorders, in the Genera Morborum of our juſtly celebrated profeſſor Dr CULLEN; and which, without any other ſanction, would, of itſelf, be ſufficient authority for their being here inſerted among ſuch affections *.

That internal remedies may ſometimes be of uſe, and even neceſſary, in many inſtances of cutaneous eruptions, will not, probably, ever be doubted; but that they ever prove ſerviceable in the way commonly imagined, namely, by correcting particular kinds of acrimony ſuppoſed to exiſt in the maſs of fluids, does not appear in the leaſt probable. Nor do the good effects which are ſometimes produced by internal medicines, render it leſs certain that cu-

* The character given by Dr Cullen of the claſs Locales, is, "Partis, non totius corporis, affectio." Vid. Synop. Noſolog. Method. Edinburgi.

cutaneous affections are in general only local diſorders.

Thus, in many diſeaſes of the ſkin, antimonials are frequently exhibited with conſiderable advantage. But the principal advantages attending them ſeem to depend entirely upon their producing a determination to the ſkin, and keeping up a free diſcharge of the matter of perſpiration; which frequently, from want of cleanlineſs, and ſometimes from other cauſes, being long retained on the ſurface of the body, and there turning acrid, may often, it is probable, give riſe to many of our cutaneous affections. And accordingly we find, that all ſuch remedies prove conſtantly more or leſs effectual, according as they are more or leſs powerful in keeping up a free perſpiration.

By thoſe who maintain that an acrimony of the fluids is the moſt common cauſe of ſuch diſorders, it is ſuppoſed, that the beneficial effects of antimonials and other diaphoretic medicines depend entirely on their evacuating or carrying off the

morbid

morbid matter, with which the fluids, in theſe diſorders, are imagined to abound.

Many arguments, however, occur againſt the probability of this opinion; and in particular, the difficulty, or rather impoſſibility, of ſhowing how theſe morbid matters, ſuppoſing that they really exiſted, ſhould be more readily evacuated by ſudorifics, than the other parts of the blood with which they muſt in the courſe of the circulation be intimately mixed: But what puts it beyond a doubt that all ſuch medicines act entirely in conſequence of their preſerving a free perſpiration, and not by evacuating any fluids particularly morbid, is, that the very ſame advantages, in all ſuch complaints, are frequently to be obtained, merely from the uſe of repeated warm bathing, with a due attention in other reſpects to cleanlineſs.

From this view of the theory of ſuch complaints, many circumſtances with reſpect to them can be more clearly accounted for, than on any other ſuppo-

 ſition,

ſition. Of theſe, however, we cannot here enter into a full conſideration; and ſhall only obſerve, that by it may be explained the reaſon why ſuch eruptions appear very frequently in a partial way only, which they often do, by breaking out in a ſingle ſpot, without affecting any other part of the ſurface. This we cannot ſuppoſe would frequently happen if theſe diſorders always proceeded from a general affection of the ſyſtem; but it may very readily occur from a local ſtoppage of perſpiration, occaſioned by the application of ſuch cauſes to particular parts as we know to be generally followed with that effect. And upon this principle, as was already remarked, is accounted for, much more obviouſly, the operation of the ſeveral remedies, than on any other.

In the treatment of every diſorder of this kind, the firſt and principal circumſtance to be attended to, is, that not only the parts affected, but even the whole ſurface of the body, be kept as clean and perſpirable as poſſible: for which purpoſe nothing

nothing is of so much importance as the frequent use of warm bathing, together with gentle frictions with clean linen cloths; which, in the dry species of the complaint, may be applied over even the diseased parts; but in the others, especially where considerable ulcerations occur, the frictions can be applied to such parts of the body only as are not, at the time, affected. When due attention is paid to this article of cleanliness, few or no internal remedies are ever necessary in the slighter species of herpes.

Of all the external applications, usually employed both in the mild and in the more inveterate species of these disorders, the several drying and astringent remedies are most to be depended on: Of these, the most simple of all is lime-water; which, in slight cases of dry tetter, often answers the purpose, but it seldom proves effectual in any of the others.

The different solutions of lead in the vegetable acid, prove often, in affections of this nature, very effectual; and of these the watery

watery ſolution of ſaccharum ſaturni, as directed in the treatiſe on inflammation, is always moſt to be depended on. It may either be applied in the form of cataplaſms, or on ſoft linen rags laid directly upon the parts. The latter is perhaps the moſt convenient method; and in ſuch affections, from its being more cleanly than poultices, ſhould always be preferred.

Although this, in general, is found to be a very uſeful application in the milder eruptions of this kind; yet, in ſuch caſes as prove to be inveterate, I have frequently found, that weak ſolutions of corroſive ſublimate in water, have proved more beneficial. About ten grains of the former, to a pound of the latter, makes, for all ſuch affections, a very eaſy and efficacious waſh.

Decoctions of the different kinds of boles, and of the aſtringent earths, are ſometimes, too, uſed with advantage in ſlight caſes of this kind; but in general, the preparations of lead, as we have directed above, with the watery ſolution of corroſive

rosive sublimate, prove a great deal more effectual; and do indeed, in a great measure, render every other application unnecessary.

Ointments prepared with saccharum saturni, and corrosive sublimate, have frequently too, in these disorders, been used with advantage: but as, in such forms, they must necessarily be combined with unctuous substances, they cannot of course prove so cleanly as the watery solutions of the same remedies; and as they do not in that way prove in any respect more efficacious, they ought never therefore to be preferred.

By proper attention to the different circumstances we have mentioned, many of the milder complaints of the herpetic kind are often removed: But when the disorder is of a more inveterate nature; when it is of long standing; and especially when it is accustomed to discharge large quantities of matter, as in the herpes exedens frequently happens, other remedies come likewise to be necessary.

The more obstinate and virulent such com-

complaints are, the greater attention becomes requisite to the promoting of a free discharge by the skin; for which purpose, together with warm bathing, as we formerly recommended, warm diluent drinks should be plentifully allowed. New whey answers in this view very well, and it is likewise of use as a gentle laxative. Decoctions of sarsaparilla and of mezereon, both separately and combined, have, in different forms, been recommended for the same purpose. Although I have known them used, however, in a variety of cases, I cannot say they ever seemed to be attended with any superior advantages to those which are produced by the decoctum lignorum of the shops; which, when properly exhibited, proves always a powerful diaphoretic. And we have it always in our power to increase the diaphoretic powers of this remedy by adding to each cupful of the decoction, fifteen or twenty drops of tincture of antimony.

When, in this manner, two or three pounds of the remedy are taken at proper inter-

intervals every twenty-four hours, it ſeldom fails to keep up a very free perſpiration.

As a gentle diaphoretic too, I have often known crude antimony prove uſeful, when duly prepared, and given to the quantity of about two drachms in the day, either in powder or in the form of an electuary. It commonly anſwers tolerably well by itſelf; but, when conjoined with a ſmall proportion of gum guaiac, it ſeems not only to prove more certainly ſudorific, but more readily goes off by ſtool, which in ſome caſes renders the combination of the two remedies of ſervice.

In patients of plethoric habits, in whom complaints of this nature frequently occur, laxatives prove often ſerviceable; but thoſe of the cooling kind only ſhould be uſed. Sea-water is very commonly preſcribed in theſe diſorders as a purgative, and it frequently anſwers exceedingly well; but to many patients it proves ſo nauſeous and diſagreeable, that it cannot be exhibited in proper quantities. When this is found to be the caſe, cream of tartar, which is a much more

more agreeable medicine, may be used instead of it: and as it cannot be conveniently given in solution, on account of the large proportion of water necessary for dissolving it, the most commodious way of using it is in the form of an electuary; six or eight drachms of the remedy in powder, with an equal quantity of sugar, being made into the consistence of a linctus, or of an electuary, with the mucilage of gum arabic, makes an easy dose of a very agreeable laxative.

Together with these internal remedies, an issue, in the more inveterate species of herpes, becomes always necessary; and it should indeed be among the remedies first prescribed; for here, as in the treatment of all old ulcers which have served as issues to the constitution, the cure of the disorder is rendered more certain and easy, by establishing proper drains for the superfluous fluids; without which the sores, although they may be healed, are very apt soon to break out again.

In different eruptions of this kind, especially

cially in the herpes exedens, very confiderable degrees of inflammation often occur; for the removal of which, warm poultices and fomentations are generally employed, but feldom or never with any advantage. And in no cafe whatever does the fuperiority of faturnine applications over the whole tribe of emollients, in inflammatory affections, appear more evident than in this. For the latter almoft conftantly feem to encourage the fpreading of the fecreted acrid humour; and thus, inftead of removing inflammation, in fuch inftances, they rather tend to promote it: whereas the different faturnine applications appear not only to correct the acrimony of fuch humours, but tend greatly to prevent their fpreading fo far as they otherwife would do.

In all fuperficial ulcerations of the herpetic kind, the faturnine and fublimate folutions, as we have already recommended, in general prove effectual; but whenever the ulcers have penetrated deep into the fubftance of the mufcles and other

parts,

parts, as they frequently enough do, an ointment prepared with calcined zinc I have ſometimes found to anſwer better: about two drachms of zinc in fine powder, to ſix drachms of axunge, ſeems to be in general a proper proportion. It leſſens the inflammation which commonly takes place; and it has often a conſiderable effect in altering the nature of the diſcharge from a thin acrid ſanies to a thick purulent matter.

The common unguentum ſaturninum is alſo, when newly prepared, a very proper application for the ſame purpoſe. But it ought never to be made uſe of after being long kept: for the lead ſeems thereby not only to loſe its activity, which it in ſome meaſure, in unctuous preparations, always does; but that ointment, probably from its being prepared chiefly of axunge, or of wax and oil, without any addition of the antiſeptic gums and reſins, is much more apt to turn rancid than almoſt any other ointment in common uſe.

In

In ſuch caſes, too, an ointment prepared with axunge and mercurius precipitatus albus, I have ſometimes known of uſe; but as it commonly occaſions a good deal of pain and irritation, it is not in every caſe admiſſible.

By a due continuance of the ſeveral remedies we have pointed out, whilſt proper attention is at the ſame time given to cleanlineſs, the moſt troubleſome ſpecies of herpes will in general be removed. But in ſome inſtances, notwithſtanding the uſe of all theſe, and of every other ordinary remedy, complaints of this nature ſtill continue obſtinate; they do not ſeem to yield in the leaſt, and frequently even turn more inveterate.

In ſuch caſes, there is commonly much reaſon to ſuſpect that ſome other diſeaſe ſubſiſts at the ſame time: which, on inquiry, is frequently found to be of the venereal kind, for herpes often appears as a ſymptom of that diſeaſe. This, however, may commonly be known from the hiſtory of the complaint, and likewiſe from

the fituation of the eruptions. For all eruptions of this kind which appear in lues venerea, are conftantly above fome of the hard and thinly covered bones, as thofe of the cranium, fternum, and tibia; at leaft, in the beginning of the diforder, thefe are the parts chiefly affected; though, no doubt, in its more advanced ftages, the whole furface comes to be more or lefs difeafed.

As foon as the complaint is difcovered to be of the venereal kind, its cure muft depend in a great meafure upon the general treatment neceffary in that diforder; fo that, by a proper ufe of mercury, with a continuance of the different remedies already enumerated for herpes, all affections of this nature may in due time be expected to be eradicated.

On other occafions, again, and when there is no caufe for fufpecting a venereal taint, it fometimes happens, that even the flighteft fpecies of tetter refifts all the common remedies, both internal and external, and perhaps, too, becomes more inveterate.

In

In ſuch caſes, there is frequently conjoined with the diſorder which we are now conſidering, the common ſcabies or itch: and when it happens to be ſo, as I have ſometimes ſeen, a very diſagreeable and troubleſome diſeaſe comes to be produced; what may be conſidered as a tertium quid, or a production of the two; which, in its appearance, is exceedingly loathſome; little leſs ſo, indeed, than the deſcriptions that are given of the lepra of the ancients; and, when it is allowed to remain long, it proves ſometimes almoſt as inveterate.

The itch being ſuch a well-known diſorder, its conjunction with herpes is commonly very eaſily detected: and when once it is known to take place, the cure muſt conſiſt in the ſeveral remedies already recommended for herpes, together with ſuch as are more particularly active in the cure of ſcabies; and of which, though there are many recommended by authors, yet none ever prove ſo certainly efficacious as ſulphur. Mercury too, does, no doubt, often cure complaints of this kind; as it

does, indeed, the itch in all its ftages: yet as it fails in many inftances, which fulphur, when properly directed, very feldom does, the latter fhould in general be preferred.

In every eruption of the herpetic kind to which children are liable, fulphur, in one form or other, proves commonly more effectual than any other remedy: When, in thefe complaints, therefore, the ufual remedies are found to fail, fulphur fhould always be employed; and to practitioners of experience, it is fcarcely neceffary to remark, that the Sulphur Vivum, as it is termed, in fine powder, proves always much more effectual than the flowers of fulphur. As this remedy evidently lofes much of its ftrength by the procefs of fublimation, this preparation of it fhould never be employed for any cutaneous eruption.

There is a fpecies of herpes to which, in fome conftitutions, efpecially in females, the face is particularly liable; and no variety of the diforder proves either more diftref-

diftrefsful to patients, or more perplexing to practitioners.—All the common preparations of fulphur, as well as different ointments and wafhes of the mercurial kind, are commonly employed here without any advantage; but the following combination of fulphur with faccharum faturni, I have found to fucceed in many inftances of the moft obftinate fpecies of this diforder.

℞. Lac. fulphuris - ʒij.
Sacch. faturni - ℈j.
Aq. rofarum - ℥viij. m.

The eruption to be bathed with this morning and evening, care being taken to fhake the vial when ufed.

In what manner this remedy acts, I know not: but I have known different inftances of complete cures being effected in very obftinate cafes by a frequent ufe of it.

When, however, in cafes of this kind, as well as in every fpecies of herpes, it may for fome reafon or other be thought proper to make ufe of mercury inftead of fulphur, an ointment fimilar to what in the difpenfatories is termed Unguentum Citri-

num, has on many occaſions been found to anſwer exceedingly well. But as this ointment has commonly been ordered with too great a proportion of mercury, it frequently acts as a cauſtic, and occaſions a great deal of irritation. That effect, however, is eaſily prevented, whilſt at the ſame time all the advantages of the remedy are preſerved, by diminiſhing the quantity of mercury: Half an ounce of mercury diſſolved in an ounce of ſtrong ſpirit of nitre, mixed with a pound either of axunge or of freſh butter, have, upon trial, been found to be very good proportions: or, as this ointment is very apt to turn too hard, it may at firſt be made with a double proportion of mercury and ſpirit of nitre; and, by adding an equal quantity of axunge at the time of uſing it, the ſame ſtrength of the remedy is preſerved, whilſt, at the ſame time, an ointment is obtained of a better conſiſtence.

This makes a very effectual and perfectly ſafe ointment for all ſuch eruptions as partake either of a venereal taint, or that

are in the leaſt connected with common itch; and may be uſed for the latter diſorder, in preference to all other mercurial applications, by thoſe who, on account of its offenſive ſmell, or for other reaſons, do not incline to make uſe of ſulphur. Indeed no preparation of mercury, in the courſe of my experience, has ever proved ſo uſeful as this ointment; not only in caſes of real herpes, but even in common itch. It only indeed requires to be more generally known, in order to be very univerſally employed in every affection of this kind.

By a proper and continued uſe of the ſeveral remedies recommended, but, above all, by a due attention to cleanlineſs, almoſt every herpetic complaint may at laſt be removed.

After theſe ſeveral obſervations on ſuch diſorders, it may not be improper to remark, that there are many complaints of the eruptive kind, to which children eſpecially are liable, which may all be reduced to one or other of the ſpecies of herpes

we have enumerated, and which of courfe may be all cured by the fame general method of treatment.

Thus, the tinea capitis, and crufta lactea, are commonly defcribed as diftinct and unconnected difeafes: but both of thefe affections, it is prefumed, may, with propriety enough, be reduced to the fame fpecies of herpes; and they feem evidently, indeed, to belong to the fecond, or what we have termed Puftulofus, as they appear to be exactly of the fame nature, and to differ only in fituation; the tinea being on the hairy fcalp, what the crufta lactea and other fuch eruptions are upon the face.

The feveral means of cure we have enumerated for herpes in general, apply, as was obferved, with equal propriety to any of thefe; but in the tinea capitis a peculiarity occurs from the fituation of the diforder, which, in the treatment, it has been frequently found neceffary to attend to. In this complaint, the hair, by occafioning a more confiderable remora of the exfuded matter than what occurs in any other

ſpecies of herpes, produces in it a greater degree of acrimony, which ſometimes gives riſe to bulbous ſwellings, by being roots of the hair; and hence it has been ſuppoſed, that theſe ſwellings, by being perhaps the firſt parts affected, tend to produce and to keep up all the other ſymptoms of the diſorder: So that it is commonly recommended as the firſt ſtep in the cure of tinea, to extract entirely all the hairs by the roots, either with pitch-plaſters, or ſome other adheſive application.

This, however, is always attended with a great deal of pain; it ſometimes produces very troubleſome inflammations; and beſides, it is never in any reſpect neceſſary in the firſt ſtages of the diſorder: for tho' in very long continued caſes of tinea, theſe tuberoſities at the roots of the hair do ſometimes become ſo conſiderable as to render the cure of ſuch affections more tedious than they otherwiſe would be; yet, merely by keeping the hair very ſhort, and the parts affected, as clean as poſſible, the

the different remedies already enumerated almoft always effect a cure, without having recourfe to the extraction of the hair.

The watery folution of corrofive fublimate was already recommended as an external application for different herpetic eruptions; but in no fpecies of the diforder does it produce fuch remarkably good effects as in tinea capitis; infomuch that, except in very inveterate cafes, a cure may generally be obtained by the ufe of this remedy alone.

Iffues have already been mentioned as being very ufeful in all eruptive diforders of this kind; but in thefe complaints, which, in childhood efpecially, are fo common, they feem to be ftill more neceffary, and more ufeful, than in the advanced periods of life; for, as thofe children that are particularly liable to fuch eruptions, are commonly of very grofs full habits, it is fcarcely poffible often to obtain, at leaft, lafting cures, without in the firft place introducing adequate drains.

Indeed iffues alone, with a proper attention

tention to cleanlineſs, will very frequently, in the firſt years of childhood, get the better of all ſuch complaints, without the aſſiſtance of any other remedy; and they do not by any means prove ſo prejudicial to the conſtitution as the frequent uſe of purgative medicines, which in ſuch caſes are ſo commonly employed. Purgatives do, no doubt, frequently prove ſerviceable, by carrying off ſuch ſuperabundances of fluids as the ſyſtem happens to be loaded with, but never in ſuch an eaſy gradual manner as is done by iſſues.

There has an objection been commonly made to the uſe of iſſues in general, that they are very apt to become ſo far habitual as to prevent them from being afterwards healed up, without conſiderable riſk. This, in children, however, ſhould never be any material objection to them: for, about the fifth or ſixth year, when children are able to take more regular and fatiguing exerciſe; when the ſyſtem, having acquired a firmer tone, is rendered more capable of preſerving a due balance be-

tween

tween the ſolids and different contained fluids; and when, in fact, the latter are never obſerved to be ſo abundant as in the preceding years of childhood; there is not then the ſame neceſſity for ſuch drains, and it might even in ſome inſtances be prejudicial to continue them longer. We do accordingly obſerve, about this period of life, that many of the eruptive diſorders, which had prevailed before, now diſappear entirely: nature then requiring a greater ſupply of fluids for all the different ſecretions, throws off, by their means, what had formerly been diſcharged by different eruptions upon the ſurface.

SECTION X.

Observations on the Venereal Ulcer.

HAVING, in the ſeveral preceding ſections, gone through the conſideration of all ſuch ulcers as can with propriety be looked upon as local affections merely, thoſe of an oppoſite nature come next in courſe to be treated of; and they are, as was formerly remarked, to be comprehended in the ſecond claſs.

The general character of this claſs has been already given. It includes, as was formerly remarked, all ſuch ulcers as are connected with, or that depend upon, ſome general diſorder of the ſyſtem; and the ſeveral ſpecies of it are, the Venereal, the Scorbutic, and Scrophulous.

Having

Having ſpoken ſo fully upon the different ſpecies of local ulcers, all that is neceſſary upon thoſe of the ſecond claſs, is to point out, as conciſely and diſtinctly as poſſible, the different characteriſtics by which they may be diſtinguiſhed; together with ſuch remedies as may be peculiar to, or proper for each; referring always to what may have been remarked in the preceding ſections, for whatever may, in common, occur between any two ſpecies of the different claſſes.

§ 1. *Varieties of the Venereal Ulcer.*

By venereal ulcers, in general, are meant ſuch as are connected with an univerſal ſyphilitic affection of the ſyſtem. But as chancres, and ſome other ſpecies of ſores which occur in that diſorder, may with equal propriety be termed Venereal Ulcers, although they are not always connected with a general infection, yet, in order to prevent any ſort of ambiguity, it will be proper here to comprehend the conſideration of theſe alſo.

Venereal

Venereal ulcers, then, may be divided into two varieties; namely, thofe which appear as primary fymptoms of the difeafe, and fuch as may more properly be confidered as fymptomatic.

Of the former kind are chancres in general, whether upon the parts of generation, communicated by venereal intercourfe; upon the nipples and breafts of women, by nurfing infected children; or on the lips and parts adjacent, communicated by falutation: for all fuch fores, though feated on different parts, are of one and the fame nature. Thofe ulcers, too, may fometimes be reckoned primary, which remain after the opening or burfting of fuch buboes as appear to have arifen from an infection lately communicated, and before there is any probability that the whole fyftem is affected.

Such ulcers, again, are confidered as fymptomatic, which arife in confequence of a general taint of the habit. Of this kind are all thofe which fucceed to old buboes and fuch as appear along with other

other venereal ſymptoms a conſiderable time after infection; the moſt ordinary ſituations for which are, the throat, palate, noſe, the parts immediately above the bones of the cranium, tibia, humerus, and other hard bones thinly covered with fleſh.

Although, in many caſes, it is not eaſy to make this diſtinction in venereal ſores, yet it may frequently be done, and ſhould be always ſtrictly attended to; the treatment of the two different ſpecies being in ſome reſpects exceedingly different, as will be afterwards particularly taken notice of.

In ſuch caſes, the principal means of diſtinction are obtained either by information from the patient, or from the appearances of the ſores themſelves.

If, ſoon after expoſure to infection, an ulceration appears upon the part to which the virus was immediately applied, together with ſwellings of any of the glands in the courſe of the lymphatics, we may be almoſt convinced that theſe are only local affections, and ought to be conſidered accordingly as primary ſymptoms. Ulcerations

rations thus occurring from the immediate application of the venereal virus, are in general termed Chancres: they appear, at first, as small miliary spots, which soon rise and form little vesicles, that, upon bursting, discharge sometimes a thin watery fluid, and, on other occasions, a more thick yellow matter. The edges of such sores are generally hard and painful; and are, together with the glandular swellings already described, commonly attended with more or less inflammation.

These are the common appearances of venereal sores from a recent infection; but the ulcers which appear as symptoms of a long-continued affection, in general prove more troublesome. They are distinguished from those already described, as likewise from every other species of ulcer, 1. By information from the patient: 2. By their situation: and, 3. By their appearances.

Whenever an ulcer is suspected to be of a venereal kind, the real nature of it may frequently be learned from the patient. Thus, if a person, who has long had other

ſymptoms of infection in his conſtitution, is attacked with one or more ulcers, whether in conſequence of external injuries or not, and if they reſiſt the common methods of cure, there can be very little doubt of their being infected with the general taint of the habit.

It ſometimes happens, however, that ſuch information is not to be obtained: for patients infected with diſorders of this kind, very often conceal, and, when queſtioned, even refuſe to acknowledge it; and on other occaſions, patients cannot even themſelves be certain whether they are infected or not, having perhaps no other ſymptoms at the time than theſe ulcers, and which they may not probably have conſidered to be of the venereal kind.

When this happens to be the caſe, we muſt endeavour to obtain our information from the ſituation and appearances of the ulcer itſelf.

By far the greateſt part of venereal ulcers from an old infection, appear, as was already remarked, immediately above the bones,

bones, and ſuch of theſe eſpecially as are moſt thinly covered with muſcles. They firſt appear in the form of a red, and ſomewhat purpliſh effloreſcence, not circumſcribed, but in general rather conſiderably diffuſed. This ſoon comes to riſe into a number of ſmall puſtules, which ooze out a thin fretting ſerum. At firſt theſe puſtules, when obſerved through a glaſs, appear perfectly dictinct; but they at laſt run together, and form one large ulcer, whoſe edges are commonly ragged and ſomewhat callous; and there is generally a light red appearance, which extends a conſiderable ſpace beyond the ſore, over the ſkin that does not ſeem to be otherwiſe diſeaſed.

Sores of this kind have frequently a very remarkable appearance, being hollowed as it were into the form of a cup, generally narrow and contracted at the bottom, with the edges extending gradually till they reach the outward circumference. This at leaſt is commonly the caſe, except when carious bones happen

to ly at the bottom of the sores, and then they are generally filled up with troublesome fungous excrescences.

Venereal ulcers are not commonly attended with much pain; at least, seldom so much as, from their appearances, might be expected. In some instances, however, it is otherwise: and the discharge of all such sores, though at first thin, comes at last to put on a very particular and characteristic appearance, being of a consistence rather more tough and viscid than good pus; with a very loathsome, though not the ordinary fetid, putrid smell; and a very singular greenish yellow colour.

These are the most common appearances of old venereal ulcers; and when all or any of them occur upon any of the situations enumerated, we may almost always determine, with certainty, the complaint to be of the syphilitic kind.

The distinction we have proposed of venereal ulcers into primary and symptomatic, is, in the treatment of the disease, found to be a matter of considerable importance: for

for thofe of the former kind, if attended to immediately on their firft appearance, and before any abforption of matter has taken place, might undoubtedly be frequently removed without the affiftance of any internal medicine, merely by converting an incipient chancre into the ftate of a fimple ulcer, by burning or deftroying the venereal matter contained in it with cauftic *.

But although a cure might in this manner be fometimes effected with fufficient fafety, yet as we have no means of becoming abfolutely certain whether fome of the virus may not have entered the fyftem, the cure of even the flighteft chancre fhould never be trufted to any other remedy than the internal ufe of mercury; with this material difference, however, that in incipient fores of this kind, it commonly proves fufficient to adminifter a very fmall quantity of the remedy only, in proportion to what is requifite in fuch ulcers as appear in confequence of an old general infection.

* Dr Monro's Prelections.

The diſtinction propoſed, points out likewiſe another circumſtance of conſequence in the cure. In ulcers from an old pox, we ought never to make uſe of mercurial and other dreſſings, with a view to heal and dry them up ſoon; but ſhould rather truſt entirely to mercury given internally, and in the mean time continue to apply ſuch remedies only as are neceſſary for keeping the ſores clean and eaſy.

Thus, the healing of the different ulcers merely by the uſe of internal remedies, affords the beſt, and indeed the only convincing proof of the diſeaſe being eradicated; and it proves indeed the ſureſt index by which a Surgeon can be directed, as it plainly ſhows, that little more mercury can be neceſſary; a circumſtance, of which a practitioner cannot by any other means be convinced.

With many practitioners, it has been the common method to treat in this manner chancres, and all thoſe venereal ulcers we have termed Primary; whilſt, at the ſame time, they have not thought proper

to

to apply the practice to those of long standing, or that proceed from a general infection of the system. But, with very little attention, it must appear, that directly the reverse of this should be followed; and the advantages attending it would commonly be found considerable.

The reasons for keeping old venereal ulcers open during the internal exhibition of medicines, have been already explained. But in recent chancres, produced merely by a local application of a corroding matter, as they are entirely topical, and not connected with any disorder of the system, mercury given inwardly has not near such a chance of effecting a cure; and accordingly we often find, that, after very considerable quantities of the medicine have been used, we are at last, after all, obliged to have recourse to some external application.

This, however, is far from being the greatest inconvenience attending the practice: for as long as a chancre or ulceration

continues open, there is much more reaſon to ſuſpect that the ſyſtem in general may be infected, than if the chancre or ſource of that matter had been healed ſoon after its appearance.

By ſome it may be alleged, that it is not of much conſequence whether a ſmall or a larger portion of the venereal matter be taken into the ſyſtem, as the leaſt particle may juſt as certainly produce all the ſymptoms of the diſeaſe, as if a much larger quantity had been admitted.

This, in ſome reſpects, may probably be the caſe, as the ſyphilitic matter is known to be of a very penetrating and aſſimilating nature; but there is ſurely much more reaſon to hope, that a very ſmall portion of ſuch matter may be prevented from infecting the ſyſtem, either by being ſtopped in its courſe; by occaſioning, as it frequently does, obſtructions of one or more glands; or even by being afterwards thrown out at ſome of the emunctories; than that the danger of a general infection, ariſing from a conſtant abſorption and diffuſion of the ſame

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ſort of matter, can by any means be obviated or removed.

That the opinion we have ventured to give on this point, is at leaſt very probable, will not readily be controverted. But it is likewiſe ſaid, that the practice of treating chancres, by the uſe of internal remedies only, can never occaſion any kind of riſk, as the mercury which is, or ought always in ſuch caſes to be exhibited, by acting as a certain antidote to the venereal virus, muſt ſoon exert its influence on the ſyſtem, in ſuch a manner as to prevent the latter from having any farther influence.

Such reaſoning, however, is, in practice, by no means to be depended on. For, in the firſt place, though mercury in general proves a very certain cure for venereal complaints already ſubſiſting in the conſtitution; yet, even where it has been previouſly exhibited in conſiderable quantities, it does not prevent a new infection from taking place: Of this I have known many inſtances; and it would probably, if attended to, be found to occur very frequently.

But

But again, although we were even certain, if a proper quantity of mercury was preſent in the fluids, that no farther infection could take place from the introduction of a larger portion of venereal matter; yet, in caſes of chancre, we can never be ſure that the medicine will ſo ſoon enter the circulation as to produce this prophylactic effect. For when we conſider how frequently practitioners are diſappointed in attempting to introduce a ſufficient quantity of mercury, either from the fault of the preparation, from its running off by ſtool, from its flying too quickly to the mouth, or from ſome other cauſe, no dependence, it is evident, is to be placed upon this matter.

Upon the whole, therefore, the cure of chancres, and of all venereal ulcers of the ſame kind, ſhould be haſtened as much as poſſible, not only by internal medicines, but by external applications likewiſe.

§ 2. *Of the Cure of the Venereal Ulcer.*

The moſt effectual method in every caſe of

of chancre, as we have already hinted, would probably be, to touch the part affected with some strong caustic as soon as the disease is observed; and, by thus destroying at once all the venereal matter, the sore being now nearly in the state of a simple ulcer from any other cause, would, with ordinary dressings, be very easily cured. Practitioners, however, are seldom called in so early, and frequently not till the different ulcerations are considerably enlarged, when the practice could not readily prove effectual, and when it might sometimes even be dangerous to apply, so extensively, to those tender parts on which chancres are commonly seated, such irritating remedies as any of the more active caustics.

What I have generally found to answer in every case of ulcerated chancre not attended with much inflammation, is, after wiping the sores as free from matter as possible, to sprinkle them well with mercurius precipitatus ruber finely prepared, and to apply a pledgit of any common

oint-

ointment over all. This does not commonly occaſion much pain or irritation; and it has the effect of producing a kind of ſlough over the ſore, which, in the courſe of a dreſſing or two, generally comes away, and leaves the ulcer perfectly clean.

Chancres being reduced to this ſtate, would probably ſoon heal, although no other dreſſing ſhould be uſed than common cerate: but, leſt any venereal matter ſhould remain, I have commonly, after removing the dreſſings with the precipitate, been in the way of uſing the ſtrong mercurial ointment of the Edinburgh Diſpenſatory, and to dreſs with it till the ſores heal up.

In this manner all ſuch ulcerations are in general eaſily cured, and with much leſs mercury given inwardly than if allowed for any conſiderable time to remain open.

By long continuance, however, and from neglect of proper remedies, even theſe, at firſt ſeemingly ſimple ſores, come to put on all the appearances of ſuch ulcers as depend upon a general infection; and as they

they are then really ſuch in every reſpect, their treatment muſt vary accordingly.

Ulcers of this kind, upon the penis eſpecially, when of long duration, are very apt to become inflamed; and then, by the pain they occaſion, they prove frequently exceedingly troubleſome. When the inflammation comes any conſiderable length, blood-letting is ſometimes requiſite; but, in general, that ſymptom is eaſily enough kept moderate, merely by a continued and proper uſe of the ſaturnine poultice.

The inflammation being oncethoroughly removed, the beſt application, in all ſuch caſes, is ſimple wax ointment, as we have formerly mentioned, till a proper quantity of mercury has been exhibited, and then the ſores commonly heal without any farther application.

There are two different modes in uſe, of throwing mercury into the ſyſtem; the one by giving it internally by the mouth, and the other by introducing it into the body through the abſorbents on the ſkin by means of friction: But, as the laſt

of

of theſe methods is by much the moſt troubleſome and inconvenient, and as it does not, upon trial, appear to be attended with any ſuperior advantages, the former is now, I believe, very commonly preferred.

Various forms of mercury have been contrived for internal exhibition; but thoſe in which it has undergone no other preparation than ſimple triture, ſuch as the quickſilver pill of the Edinburgh Pharmacopœia, are, in general, the beſt. They prove commonly more effectual, and are ſeldom attended with any of the inconveniences which often occur from the uſe of the different mercurial calces.

But whatever preparation of mercury be employed, it ſhould always be continued till a ſoreneſs of the mouth be induced, that being the only certain indication of the medicine having entered the ſyſtem: and it ſhould never be carried farther than is merely neceſſary to produce a moderate affection of the mouth, which is now found from experience to be productive

ductive of all the advantages, and none of the inconveniences, which commonly attend a considerable salivation: it is not the quantity of salivary matter discharged, that has any influence in the cure of venereal complaints, but the quantity of active mercury really introduced into the course of the circulation.

It is not always easy, however, to prevent mercury from running off too quickly by the mouth, so as sometimes to occasion very troublesome salivations. To guard against this circumstance by determining the medicine more particularly to the skin, the warm bath has been frequently recommended, both as a necessary preparation, and as a remedy which ought to be used along with the mercury. The same effects, we may remark, may in some degree be obtained, and with less risk to the patient from cold, by the use of a flannel shirt next the skin, and by drinking plentifully of decoction of sarsaparilla or of the woods; care at the same time being taken to keep the body in a proper temperature,

and

and that it be never expoſed to any conſiderable degree of cold. But whenever the warm bath can be conveniently and properly procured, it ought to be employed; for it commonly proves an uſeful aſſiſtant to a mercurial courſe: By preſerving a ſoft ſkin and a free perſpiration, it prevents the mercury from running with too much violence to the mouth; and nothing tends ſo certainly to prevent this medicine from affecting the bowels with gripes and other ſymptoms of colic.

A courſe of this kind being continued for a longer or ſhorter period, according to the degree of infection and violence of the ſymptoms, a cure of all ſuch complaints is at laſt very commonly obtained.

In ſome inſtances, however, the quickſilver pill above recommended, either does not produce all the deſired effects, or even fails altogether. On ſuch occaſions, the corroſive ſublimate is frequently found to anſwer; and may be given either in the form of pills, or in the ſpirituous ſolution: the former, however, never proves ſo nau-

ſeous

ſeous as the latter, ſo that a larger quantity of the medicine may in that manner be commonly exhibited. The mercurius calcinatus ruber, is often found to anſwer in old venereal ſores, when the uſual forms of employing mercury have failed. In large doſes of three, four, or five grains, it operates briſkly both as an emetic and purgative: but ſmall doſes, eſpecially when conjoined with opiates, are ſeldom productive of any inconvenience; and may, in general, be continued for a conſiderable length of time, without inducing ſalivation.

In very obſtinate venereal ulcers, it becomes ſometimes neceſſary to make trial of all the variety of mercurial preparations; and, on particular occaſions, one will be found to prove very ſerviceable, though none of the others may appear to have had any influence.

The moſt certain rule for determining the quantity of the medicine to be exhibited, is, that it ſhould be continued for ſome time after every ſymptom

of the diſeaſe has diſappeared; and that for a longer or ſhorter period, as the diſorder may have been of long or ſhort ſtanding, and as the ſymptoms may have been inveterate or otherwiſe: but this very material circumſtance in the cure of every venereal complaint, muſt be ultimately determined by the judgment of the practitioner in attendance.

Though by ſuch a courſe of mercury given inwardly, with the neceſſary external treatment formerly pointed out, almoſt every ulcer of this nature may, as was obſerved, be in general removed, yet in ſome few inſtances it is otherwiſe; and the ſores cannot be brought to heal, even tho' the mercury be continued long after every other ſymptom has diſappeared, and when, from this circumſtance, and from the quantity of the medicine exhibited, there is every reaſon to think that the venereal taint in the ſyſtem is altogether eradicated.

As an ulcer, in this ſituation, cannot with propriety be conſidered as a venereal affection,

affection, it would be in vain to expect a cure from the ufe of any preparation of mercury whatever. Whenever fuch fores, therefore, fhow a greater obftinacy than what from their appearances might be expected, and efpecially when they do not yield in any degree to mercury, it gives caufe to fufpect, that fome other difeafe may probably have fubfifted in the conftitution, together with lues venerea, and that both may have had fome fhare in the production of the ulcers.

As foon as the nature of this conjoined diforder is difcovered, proper remedies muft be employed in order to correct it; and this being accomplifhed, the cure of the fores will, in general, go eafily on.

On fome occafions, however, venereal ulcers prove obftinate when the fyftem appears to be perfectly free from every other diforder. In fuch cafes, when the fores are feated upon, or near to any of the bones, efpecially when fungous excrefcences arife, there will commonly be reafon to fufpect that the cure is protracted by a

 latent

latent caries; and if this is found on examination to be the caſe, and if the patient is in other reſpects healthy, there will ſeldom be reaſon to doubt, but that, by following the directions already given for the treatment of carious bones, and by a continuance of the mercurial courſe, a cure will at laſt be effected.

In ſome inſtances, again, when there is no reaſon, from the ſituation of the ſores to imagine that a caries can be the cauſe of their inveteracy; and although there is no appearance either of ſcrophula, ſcurvy, or any other diſeaſe of the conſtitution; yet ſtill they go on without ſhowing any diſpoſition to heal, and perhaps even become worſe.

In ſuch caſes, when the ſyſtem is much reduced by long confinement and a tedious courſe of mercury, which frequently indeed happens when a violent ſalivation has been long kept up, the beſt and moſt effectual remedy, in general, is a light nouriſhing diet, with the aſſiſtance of freſh air and moderate exerciſe; which, by invigorating

vigorating the conftitution, tend more certainly to promote a cure than all the medicines and applications commonly employed.

In all fuch circumftances, indeed, the effects of a change of this nature are often furprifing; for the moft obftinate ulcers, which have refifted every ufual remedy, I have in various inftances feen entirely cured, merely by fuch means as we have now mentioned. In this fituation of thefe fores, too, the Peruvian bark, when taken in proper quantities, frequently proves very ferviceable.

With refpect to the external treatment of old fores of this kind, as the floughs with which they are commonly covered, render fome degree of ftimulus neceffary, common bafilicon, with a large proportion of red precipitate, anfwers for this purpofe exceedingly well. Two drachms of the mercury to an ounce of ointment, make very good proportions, and afford one of the beft dreffings for every ulcer of this nature; and when, by the ufe of fuch an

 ointment,

ointment, the ſloughs have all caſt off, and a diſcharge of proper matter has been induced, the treatment muſt afterwards be regulated according to the ſeveral circumſtances already pointed out in the different preceding ſections on local ulcers.

When any of the glands happen to be the ſeats of venereal ulcers, as it is always difficult to induce a kindly ſuppuration in them, it is ſometimes neceſſary, before a cure can be obtained, to deſtroy the whole, or a conſiderable portion of ſuch as are very much hardened. This is moſt conveniently and moſt eaſily done, by reiterated applications of cauſtic: If the ſurface of the affected glands be rubbed over every third or fourth day with lunar cauſtic, ſo much of them as has been greatly diſeaſed, may, in this manner, be ſoon deſtroyed; and the remainder, by proper attention to every other circumſtance of the cure, being brought to furniſh healthy granulations, the ſores, without any farther difficulty, will ſoon be brought to heal.

Although, in general, by attending to all theſe different circumſtances as appearances may indicate, almoſt every ulcer of the venereal kind may at laſt be removed; yet, in long habitual and reiterated poxes, which have never been properly cured, the whole frame comes to be ſo contaminated with the infection, as, in ſome inſtances, to produce ſuch an inveteracy in ulcers, as does indeed baffle all the efforts both of nature and art, and at laſt carries off the patients in very great miſery. Some ſuch inſtances I have ſeen in different hoſpitals, where probably ſuch very obſtinate caſes are only met with.

SECTION XI.

Obſervations on the Scorbutic Ulcer.

§ 1. *General Remarks on Scurvy.*

IT was remarked in a former ſection, that, under the appellation of Scorbutic Ulcer, there have in general been ranked a great many of thoſe eruptive diſeaſes to which the ſkin is liable, as the itch, ſeveral ſpecies of lepra, &c. But the real nature of true ſcurvy being now much better underſtood, and it being known that no ſuch ſymptoms as eruptions of that kind ever occur in it, the impropriety either of applying the term Scorbutic to ſuch, or of treating them as ſymptoms of that diſeaſe, muſt appear exceedingly evident.

We have already remarked, that ulcers which proceed from any of the above mentioned eruptive disorders, are probably connected with a very opposite state of the system to that which takes place in those really scorbutic: The former generally, if not always, we suppose to depend upon an inflammatory diathesis; whereas, in true scurvy, the fluids arrive at probably the highest degree of dissolution and putrefaction of which in the living body they are susceptible. We know that doubts have been entertained of this point; but they will not be readily admitted by those who have had opportunities of attending cases of real scurvy.

From the writings of several old authors, it appears, that scurvy was a well-known disorder some ages ago; but the true causes, symptoms, and method of treatment of the disease, were never accurately understood till Dr Lind's publication on the subject appeared.

The several species of scurvy enumerated by authors, viz. the Muriatic, the Alkaline, &c. so named from the nature of the

the cauſes ſuppoſed to produce them, are now known to be very falſe and improper diſtinctions; the true ſcurvy being always of the ſame nature, and always produced by the ſame cauſes, wherever theſe occur, in whatever climate, and whether at ſea or land.

§ 2. *Symptoms and Cauſes of the Scorbutic Ulcer.*

Among other ſymptoms of ſcurvy enumerated by Dr Lind in his ingenious treatiſe on this ſubject, the ulcers which are ſo common in that diſeaſe, are particularly deſcribed; and as he gives a very clear and diſtinct idea of them, we ſhall here tranſcribe verbatim the Doctor's deſcription of them.

"The diſtinguiſhing characteriſtics of ſcorbutic ulcers are as follow: They afford no good digeſtion; but a thin fetid ſanious ſtuff, mixed with blood; which at length has the true appearance of coagulated gore lying caked on the ſurface of the ulcer, and

and is with great difficulty wiped off or ſeparated from the parts below.

"The fleſh underneath theſe ſloughs feels to the probe ſoft or ſpongy, and is very putrid. No detergents or eſcharotics are here of any ſervice; for though ſuch ſloughs be with great pains taken away, they are found again at next dreſſing, where the ſame ſanguinous putrid appearance always preſents itſelf: Their edges are generally of a livid colour, and puffed up with excreſcences of proud fleſh ariſing from below under the ſkin.

"When too tight a compreſſion is made in order to keep the fungus from riſing, they are apt to leave a gangrenous diſpoſition; and the member never fails to become œdematous, painful, and for the moſt part ſpotted.

"As the diſeaſe increaſes, they at length come to ſhoot out a ſoft bloody fungus, which the ſailors expreſs by the name of Bullock's Liver; and indeed it has a near reſemblance to that ſubſtance when boiled, both in colour and conſiſtence. It often riſes

rifes in a night's time to a monftrous fize; and, although deftroyed by cauteries, actual or potential, or cut fmooth with a biftoury, in which cafe a plentiful hæmorrhagy generally enfues, it is found at next dreffing as large as ever. They continue, however, in this condition a confiderable time, without affecting the bones.

"The flighteft bruifes and wounds of fcorbutic perfons degenerate into fuch ulcers: Their appearance, on whatever part of the body, is fo fingular and uniform; and they are fo eafily diftinguifhed from all others, by being fo remarkably putrid, bloody, and fungous; that we cannot here but take notice of the impropriety of referring moft of the inveterate and obftinate ulcers in the legs, with very different appearances, to the fcurvy *."

This accurate defcription of the fcorbutic ulcer comprehends almoft the whole appearances ever obferved in fuch affections. Only it may be remarked, that at land, unlefs in very particular fituations, and

* See Lind's Treatife on the Scurvy.

and from a conftant expofure to all the more active caufes of fcurvy, fuch inveteracy as is defcribed by Dr Lind is not often met with: But in every country, and none, perhaps, more frequently than in fome parts of this kingdom, flighter degrees of the fame kinds of fores very often occur, forming what by practitioners in general are termed Foul or Malignant Ulcers.

In the Royal Infirmary of this place, fores of this kind are frequently met with, accompanied fometimes with even the moft characteriftic fymptom of fcurvy, foft fpungy gums. In the worft cafes, however, that I ever met with here, there never was the appearance of fuch a high degree of putrefcency in the fyftem as we are told happens frequently in long voyages at fea.

The reafon of this may be, that fuch complaints of the fcorbutic kind as occur in this country, appear generally among the loweft clafs of people, and proceed rather from the want of a fufficient fupply of food, than

than from confinement to any one kind that can be at all confidered as particularly feptic, or as predifpofing to fcurvy.

In fuch patients, the putrid diathefis feldom ever prevails to fuch a degree as to produce ulcers in parts previoufly found; but it never fails to fhow itfelf in ulcers either already formed, or in fuch wounds as happen to be inflicted while fuch a ftate of the fluids fubfifts. Indeed very many of the ulcers upon the legs, and other parts of the generality of our poor people, frequently partake, more or lefs, of the real fcorbutic taint; as is evident both from their appearances, caufes, and particularly from the method of cure that is found to fucceed beft; a good nourifhing diet contributing more towards a cure, than all the applications ufually employed.

The immediate or proximate caufe of fuch ulcers, as of every other fcorbutic fymptom may be referred to a certain degree of putrefcency in the fluids; which again may be induced by a variety of caufes, but of which the moft material

are,

are, living constantly upon salt provisions; a total want of vegetables; with exposure to a cold moist atmosphere. Many other exciting causes of the disorder might be mentioned; but as this would lead to a more extensive discussion of the subject than is here intended, for farther information, Dr Lind, Sir John Pringle, Huxham, and other authors who treat more directly on the subject, may be consulted.

§ 3. *Of the Cure of the Scorbutic Ulcer.*

The cure of scorbutic ulcers, it is evident, must depend much upon the correction of the putrid diathesis in the system; for which purpose vegetables of all kinds, but especially those of an acescent nature, with milk and whey, are found to be almost certain remedies. The different secretions, especially those by the skin and kidneys, should be gently promoted: and as the former in a particular manner is almost entirely obstructed in every case of scurvy, the restoring of a due perspiration is found to have a considerable influence

in the cure; probably by carrying off many of the putrid particles with which the fluids in fuch cafes always abound. Gentle laxatives too, for the fame reafons, are of ufe; and, as fuch, Tamarinds and Cream of Tartar with Manna, anfwer well.

Thefe, together with a total abftinence from falted food, and a proper attention to avoid all the other exciting caufes of the difeafe, very commonly effect a cure of every fcorbutic fymptom, and, among others, of fuch ulcers; the beft external applications for which, are antifeptics of the moft powerful kinds. Lind recommends Unguentum Ægyptiacum and Mel Rofarum acidulated with Spiritus Vitrioli.

Thefe in general are the remedies found moft effectual, and which are commonly employed in very bad cafes of fcurvy; but in fuch putrid ulcers as occur moft frequently in this country, the feptic ftate of the fluids, as we have obferved above, feldom advances to fuch a high degree, as to render it particularly neceffary to confine pa-

patients to what may properly be called an antiſcorbutic courſe.

The common malignant or ſcorbutic ulcer of this climate ſeeming, as was already remarked, to proceed more frequently from a real deficiency of food, than from any other circumſtance; putting the patients by degrees upon a full allowance, with a daily, though moderate, proportion of ſome generous wine, has always a powerful effect in promoting their recovery.

This, we muſt obſerve, is a point of more importance in the treatment of theſe ulcers than is commonly imagined, and the attention of practitioners ought to be more directed to it than is generally the caſe. Inſtead of preſcribing medicines for the cure of ſuch ulcers, much more advantage would be derived from a well-regulated nouriſhing diet; and eſpecially when to this is conjoined, as we have ſaid, a moderate proportion of wine, or, what I have frequently imagined has anſwered better, a proper allowance of porter or ſtrong beer. The foul old ulcers of poor people

in every country, are moft frequently induced by indigence, and are kept up by a real want of nourifhment. In all fuch cafes, therefore, the practice of hofpitals would probably prove more beneficial, by laying the ufe of internal medicines almoft totally afide; and by employing the favings thus produced, in furnifhing fuch a diet as we have been here recommending.

The Jefuits bark, however, is a remedy which, in ulcers of this kind, proves frequently ufeful; it commonly indeed proves more ferviceable here than in any other fpecies of fore. When given in proper quantities, which are always to be determined by the ftate of the ftomach, it feldom fails of producing, in the courfe of a few days, a confiderable change for the better. For fuch fcorbutic ulcers as occur in this country, the bark indeed is almoft the only internal medicine that is ever neceffary.

With refpect to the ufe of mercury in this kind of fore, it ought always to be kept

kept in view, that in ulcers really ſcorbutic, inſtead of acting as a remedy, if given in any conſiderable quantities, it proves always extremely hurtful. Lind, from a great deal of experience, ſays, with reſpect to this point: "Mercury, in a truly ſcorbu- "tic ulcer, is the moſt pernicious medicine "that can be uſed*." So that a proper diſtinction between ſores of this nature, and the ſeveral eruptive diſorders commonly termed Scorbutic, appears in the treatment to be a matter of conſiderable importance: in the latter, mercury may not only be generally given with impunity, but in ſome inſtances with advantage; whereas, in the former, it can never be adminiſtered but with much hazard.

Peruvian bark, as an external application, too, anſwers exceedingly well in all ſuch ulcers; pledgits dipped in a ſtrong decoction of it, and applied to the ſores, have generally a conſiderable effect in correcting the fetor and putreſcency of the diſcharge: But the beſt application for that purpoſe, in

* Vide Treatiſe on the Scurvy, Part II. chap. 11.

in theſe ulcers, is the carrot poultice, which when conjoined with the internal uſe of bark, and a proper regimen, in the courſe of a ſhort time, generally corrects the putreſcency which prevails, ſo effectually, that the ſores being dreſſed for a few days longer with pledgits of baſilicon and red precipitate, with a view to procure the removal of any ſloughs that remain, a cure is afterwards commonly eaſily obtained, merely by attending to the directions formerly laid down for the management of ulcers in general, and particularly to the introduction of an iſſue, along with moderate compreſſion with a roller.

What has hitherto been ſaid with regard to the treatment of ſcorbutic ulcers, applies, in a great meaſure, with equal propriety, to all ſuch ſores as are in the leaſt connected with a putreſcency of the fluids, from whatever cauſes this may have been induced. Thus, ſuch ſores, as remain after critical abſceſſes ſucceeding to putrid fevers, require the ſame general method of treatment: and the ſame may very probably

bly be found to be the moſt effectual in thoſe produced by peſtilential diſorders; though, as I never had an opportunity of ſeeing the real plague, I cannot from experience venture to aſſert it.

SECTION XII.

Obſervations on the Scrophulous Ulcer.

§. 1. *Of the Symptoms and Cauſes of the Scrophulous Ulcer.*

BY ſcrophulous ulcers, are meant thoſe ſores which remain after the opening or burſting of ſuch ſwellings as appear in different parts of the body as ſymptoms of the ſcrophula or evil.

From the frequent occurrence of ſcrophula, it is ſuch a well known diſeaſe, that it is almoſt unneceſſary here to give any

deſcription of it. It begins with indolent, ſomewhat hard, colourleſs tumors; which at firſt chiefly affect the conglobate glands of the neck; but, in proceſs of time, the cellular ſubſtance, ligaments of the joints, and even the bones themſelves, come to ſuffer.

In ſcrophula, the ſwellings are much more moveable than thoſe of the ſcirrhous kind; they are generally ſofter, and ſeldom attended with much pain: They are tedious in coming to ſuppuration; are very apt to diſappear ſuddenly, and again to riſe in ſome other part of the body. We may likewiſe mention, as characteriſtic circumſtances of this diſeaſe, a remarkable ſoftneſs of the ſkin, a kind of fulneſs of the face, with generally large eyes, and a very delicate complexion.

Ulcers which appear in ſcrophula ſeldom yield a good diſcharge; affording, upon their firſt appearance, a viſcid, glairy, and ſometimes a whitiſh curdled matter, that afterwards changes into a more thin watery ſanies. The edges of the ſores are

fre-

frequently, though not always, painful; and are constantly very much raised or tumefied. As long as the scrophulous diathesis subsists in the constitution, such ulcers very often remain for a great length of time, without showing any disposition either to heal or to turn worse; at other times they heal very quickly, and again break out in some other part of the body.

A variety of causes have been mentioned as tending to produce scrophula; namely, a crude indigestible food; bad water; living in damp low situations; its being an hereditary disease, and in some countries endemic.

Many other causes, too, have been enumerated by authors; but we cannot propose to enter into a full consideration of them here. This, however, may be observed, that whatever may, in different circumstances, be the exciting, or predisposing causes of scrophula, the disease itself either depends upon, or is at least much connected with, a debility of the constitution in general, and probably of the lymphatic sy-

ſtem in particular; the complaint always firſt ſhewing itſelf by ſome affections of the latter. And, that debility has at leaſt a conſiderable influence in its production, is probable, not only from the evident nature of many of the cauſes which are known to be productive of ſcrophula, but likewiſe from ſuch remedies as are found to prove moſt ſerviceable in the cure, which are all of a tonic invigorating nature.

§ 2. *Of the Cure of the Scrophulous Ulcer.*

It was long ſuppoſed, that ſcrophula depended upon an acid acrimony of the fluids; and this, it is probable, gave riſe to the uſe of burnt ſponge, different kinds of ſoap, and other alkaline ſubſtances, as being the beſt correctors of acidity. But although a ſourneſs of the ſtomach and primæ viæ is a frequent ſymptom in ſcrophula; yet this ought not by any means to be imputed to a general aceſcency of the fluids, but merely to that relaxation which ſo univerſally prevails in this diſeaſe, and this eſpecially, as it often occurs in other diſeaſes

where

where no ſuch acrimony has been ever ſuſpected.

There is another circumſtance, too, which renders it ſtill more probable that no kind of acrimony exiſts in ſcrophula, namely, the very long continuance of matter collected in the different ſwellings which occur in this diſeaſe, without occaſioning either much pain, or ſhowing any tendency to corrode the ſurrounding parts; there being many inſtances of ſuch collections ſubſiſting, even for years, without exciting any kind of uneaſineſs: And in fact, the ſeveral remedies recommended for the correction of ſuch an acrimony as has been ſuppoſed to exiſt in ſcrophulous complaints, never have, at leaſt ſo far as I have ſeen, any influence in the cure.

Gentle mercurials are ſometimes of uſe, as reſolvents, in ſcrophulous ſwellings; but nothing has ever ſuch a conſiderable influence as a frequent and copious uſe of Peruvian bark. Chalybeate and ſulphureous waters, too, have frequently proved ſerviceable

viceable in ſcrophula; and a long and continued uſe of mild aperients of the ſaline kind has likewiſe had ſome influence in reſolving ſuch tumors as occur in it. Cold bathing, too, eſpecially in the ſea, together with frequent moderate exerciſe, is often of ſingular ſervice; as is likewiſe change of air, particularly to a dry climate.

With reſpect to the treatment of ſcrophulous ulcers, as long as the general morbid diatheſis continues in the ſyſtem, it is commonly in vain to attempt their cure: Nor would it, indeed, be always ſafe; as the ſores, when dried up in one part, very commonly break out ſomewhere elſe; and they juſt as readily fall upon the lungs, or ſome organ eſſential to life, as on any other part.

Such inſtances, indeed, are very frequently met with, whether the ſores heal up naturally, or by the aſſiſtance of art: We ſhould therefore be very cautious in the application either of repellent or of drying remedies; and ſhould chiefly endeavour to correct the general diſeaſe of the

the habit, by the uſe of ſuch ſtrengthening remedies as are commonly found to prove moſt uſeful.

Till the diſeaſe is eradicated from the habit, all that ſhould in general be done to the ſores, is to give as free and open vents to the matter as poſſible, ſo as to prevent effectually the formation of ſinuſes.

The beſt applications for ſcrophulous ulcers, are the different ſaturnine preparations: of which the watery ſolution of Saccharum Saturni, Goulard's Cerate, and Unguentum Saturninum, anſwer exceedingly well; for they tend greatly to prevent the ſpreading of ſcrophulous ſores, which is otherwiſe very apt to occur, and to remove that inflammatory complexion which they ſo frequently put on when relaxing applications are much employed.

A continuation of ſuch ſimple dreſſings as theſe we have recommended, is all that, in general, ſhould be attempted, ſo long as any diſorder of the conſtitution is found to remain. But, in ſome caſes, the ulcers become ſwelled and painful; they diſcharge

charge an acrid and corroſive matter; and grow otherwiſe ſo inveterate, as to render other reſources neceſſary.

When theſe circumſtances occur, a carious bone may frequently be ſuſpected to be at the bottom of the ſore; and then nature muſt be aſſiſted, as much as poſſible, in throwing off ſuch parts of it as are moſt diſeaſed, and that are become looſe. This, in many ſituations, may be eaſily done: but when the complaint fixes on any of the large joints, art can ſeldom afford much aſſiſtance: and as amputation of the member is not, in theſe circumſtances, always adviſeable, from the great riſk of the diſeaſe returning in ſome other part, nature alone muſt generally be truſted to for a cure.

In ſuch a ſituation, therefore, as no operation can be expected to contribute much to the removal of the diſorder, the moſt effectual means ſhould be adopted for aſſiſting nature in getting the better of it. With this view, a continued uſe of ſea-bathing often proves very ſerviceable: but this remedy,

medy, in order to have any confiderable effect, fhould be continued, with proper intervals, for a number of years, inftead of a few weeks annually, which is all that is commonly thought neceffary.

The bark, as formerly directed, fhould ftill be continued ; and I have fometimes obferved very good effects from a conjunction of it with cicuta, particularly in procuring a proper difcharge from fcrophulous fores.

When, in courfe of time, and by proper attention to the different circumftances we have mentioned, there is reafon, from the fores fhowing a tendency to heal, to hope that the general morbid difpofition of the fyftem is pretty much eradicated, nature is always greatly affifted in the cure, and that too is rendered much more fafe, by the introduction of an iffue fomewhat proportioned to the difcharge yielded by the different fores, and which, when the ulcers have been of long duration, fhould certainly be continued for life.

Gentle compreffion has, in the feveral preceding

preceding sections, been recommended for different kinds of ulcers: but in no species of sore is it either so evidently indicated, or of so much real utility, as in scrophulous ulcers; in which that swelling and tumefaction, which frequently raise their edges to very considerable heights, often prove a greater hinderance to the cure than any other circumstance; and which, when no considerable inflammation occurs, may always, by gentle compression, be easily and safely removed.

Such, in general, is the treatment which answers best in scrophulous ulcers: but as scrophula is one of those diseases for which art has not as yet discovered any effectual remedy, I have not attempted more than to point out, as concisely as possible, those means by which nature is best assisted in her efforts towards a cure.

SECTION XIII.

General Corollaries relating to the Management of Ulcers.

HAVING endeavoured, in the preceding ſections, to inveſtigate every point of importance relating to the different ſpecies of ulcers, it will not in this place be conſidered as improper, our exhibiting, by way of concluſion, ſuch general corollaries as naturally reſult from what has been ſaid.

1. It appears, that, except in a few inſtances, namely, in Lues Venerea, Scrophula, and Scurvy, that ulcers are always to be conſidered merely as local affections:

2. That, excepting in one or other of the above-mentioned diſorders, the varieties in the matter diſcharged by ulcers, depend

pend always on ſome particular affection of the ſolids in the part diſeaſed, and not on any morbid ſtate of the blood or other fluids.

3. That ulcers appear to be uſeful or prejudicial to the conſtitution, not by the quality of the matter afforded by them, but by the quantity: And accordingly, that the cure of even the oldeſt ſore is rendered perfectly ſafe by the introduction and preſervation of ſuch an iſſue as will yield the ſame quantity of fluids which the ſyſtem has, by means of the ulcer, been accuſtomed to throw off.

4. That, in the cure of ulcers, the firſt circumſtance to be determined, is, whether they are to be conſidered as general or topical complaints. If they appear to be of the former kind, ſuch remedies muſt be adminiſtered as are known to be moſt effectual for the correction of the diſeaſe with which they happen to be connected: in other reſpects, the treatment of ſuch ſores is nearly the ſame with thoſe originally of an unmixed ſimple nature.

5. That

5. That, in the topical treatment of ulcers of every kind, the principal object to be kept in view, is, to reduce them as nearly as possible to the state of simple purulent sores; for which purpose the different remedies have been pointed out in the several preceding sections.

6. That when ulcers are once reduced to the simple state above-mentioned, their farther treatment, in general, becomes a very easy matter; as the cure is then to be entirely effected by a proper attention to the three following circumstances.

1st, To the introduction of an issue, as was lately observed, of such a size as may carry off nearly the same quantity of fluids which the system has, by means of the sore, been accustomed to throw off.

2d, To the preservation of the matter in a purulent form, the several means for which have been already pointed out; but the principal of these, it may be remarked, are, The avoiding every kind of irritation, by using the mildest dressings only; and preserving, in the parts affected, a proper degree of heat.

3d, To the application of gentle compreſſion, not only upon the ulcer itſelf, but on the neighbouring ſound parts alſo.

We have taken various opportunities, in the courſe of this work, to recommend the application of preſſure in the cure of ulcers. In addition to what has already been ſaid upon this point, we think it neceſſary to obſerve, that this remedy is not as yet ſufficiently known, otherwiſe it would be more generally employed. Thoſe who have not uſed it, would ſcarcely give credit to the accounts we could give of its univerſal utility in the cure of ſores; but, from much experience of its effects in almoſt every ſpecies of ſore, we can venture to aſſert, that thoſe who have not employed it, have deprived their patients of the moſt powerful application which has hitherto been invented for the cure of ulcers.

Theſe are, in ſhort, the principal circumſtances to be kept in view in the management of ulcers; and which, in different parts of the preceding ſections, have been more fully explained.

CHI-

CHIRURGICAL ESSAYS.

PART III.

Obſervations on White Swellings of the Joints.

SECTION I.

Of the Symptoms and Cauſes of White Swellings.

§ 1. *General Remarks on White Swellings.*

THERE are not, probably, many diſorders to which the human body is liable, which prove either of worſe conſequences to patients, or that are leſs un-

derſtood by practitioners, than white ſwellings of the joints; inſomuch that, whenever the diſeaſe is thoroughly formed, it is in general conſidered as incurable.

This ought certainly to be a very ſtrong inducement with every practitioner for carrying his reſearches with reſpect to it as far as poſſible; and will, it is hoped, be a ſufficient apology for the following obſervations; which, merely by pointing out defects, although no material improvement ſhould be ſuggeſted, may excite others to more ſucceſsful inquiries. If this ſhould, in any degree, be the reſult of theſe remarks, I ſhall always conſider the time beſtowed on them as having been uſefully employed.

The term White Swelling has commonly been applied to ſuch enlargements of the joints as are not attended with external inflammation or diſcolouration of the ſkin and common teguments; the only ſymptoms which at firſt commonly take place, being a greater or leſs degree of ſwelling, with a deep-ſeated pain. In the progreſs of the diſeaſe, indeed, the whole

whole surrounding parts come to be so much affected, that inflammation is at last communicated to the skin itself; and when this terminates in abscesses and consequent ulceration, it is not uncommon to find a great many openings surrounding the whole joints that are so diseased.

Though there are, by different writers, several detached observations upon this complaint *; yet no regular account has ever been given of it, farther than what may be met with in general dissertations on diseases of the bones, which have always been considered as the principal seat of such disorders.

§ 2. *Different Species of White Swellings.*

There seem evidently to be two different species of white swellings, entirely distinct

* See Monro's Works, 4to, Edin. 1781, p. 460. and a paper by Dr Simpson in Vol. IV. of Edinburgh Medical Essays.—See also a paper on this subject, inserted in a collection of Pathological Inquiries and Observations in Surgery, by Richard Brown Cheston, Surgeon to the Glocester Infirmary.

diſtinct from one another; and as the one is of a much milder nature than the other, and very frequently admits of being palliated, and ſometimes even of being cured, which the other never does, it would ſeem to be a matter of importance ſo to characteriſe the different varieties, that the one may be eaſily and certainly diſtinguiſhed from the other.

In this, however, as in many other diſeaſes, the complaint has frequently been of conſiderable ſtanding before practitioners are called in: So that although, if ſeen from the beginning, and through all its different ſtages, it might generally be eaſily enough known of what particular nature the diſorder in reality is; yet, when it is far advanced, and when an exact hiſtory of the ſymptoms cannot be obtained from patients themſelves, it is often impoſſible to make any accurate or certain diſtinction; the ſymptoms of both ſpecies being, in the latter ſtages of the diſeaſe, commonly very ſimilar.

When this, however, is not the caſe, and a practitioner is called in before the ſymptoms

toms have made any great progreſs, he may commonly, with a little attention, form almoſt a certain judgment of the nature of the complaint. And, as I have had many opportunities of ſeeing every ſpecies of the diſorder, in all its ſtages, I propoſe, firſt, To give as exact an account as poſſible of the riſe and progreſs of the different ſymptoms in each ſpecies; then to mention the ſeveral appearances of the joints, which in each of them are obſerved on diſſection, with the moſt common exciting and prediſpoſing cauſes of the diſorder; and, laſtly, I ſhall enumerate the different remedies that I have known uſed for it, with their ſeveral effects.

Swellings of this nature, it may be remarked, occur in every joint of the body; but much more frequently in the large than in the ſmaller joints: Thus, at leaſt, twice as many are met with in the knee and ancle joints, as in all the reſt of the body beſides.

§ 3. *Of the Symptoms of the firſt, or Rheumatic Species of White Swelling.*

THE firſt, and what may be conſidered

as the moſt ſimple, ſpecies of the diſeaſe, begins with an acute pain, which ſeems to be diffuſed over the whole joint, and frequently even extends along the tendinous aponeurotic expanſions of ſuch muſcles as are connected with it. There is, from the beginning, an uniform ſwelling of the whole ſurrounding teguments, which in different patients is in very different degrees; but it is always ſo conſiderable as to occaſion an evident difference in point of ſize between the diſeaſed and ſound joint of the oppoſite ſide: A conſiderable tenſion generally prevails; but there is ſeldom, in this period of the diſorder, any external diſcolouration.

The patient, from the commencement of the diſeaſe, ſuffers much pain from the motion of the joint; and always finding it eaſieſt in a relaxed poſture, keeps it accordingly conſtantly bent; which generally in every ſituation, but more eſpecially in the knee, produces a ſtiffneſs or kind of rigidity in all the flexor tendons of the limb.

This rigidity of the tendons has by many

many been considered as an original symptom of the disorder; but when duly attended to, it will always be found to be rather a consequence of the disease, and to have arisen from the above-mentioned cause. In consequence, too, of the total want of motion, which from this circumstance is always produced, such joints in a very short time generally become quite stiff and immoveable, and seem frequently to be in a state of complete and real anchylosis.

If the disorder, either by nature or the effects of proper remedies, is not now carried off, the swelling, which originally was not perhaps very considerable, begins gradually to augment, and goes on till it sometimes increases to twice, or even thrice the natural size of the part.

The cuticular veins become turgid and varicose; the limb below the swelling decays considerably in its fleshy muscular substance, at the same time that it frequently acquires an equality in point of thickness, by becoming œdematous; the pain turns more intolerable, especially when

when the patient is warm in bed, or is otherwiſe heated; and abſceſſes form in different parts of the ſwelling, and run in all different directions, whilſt at the ſame time they frequently do not appear to communicate with one another.

In all theſe abſceſſes, a fluctuation of a fluid, upon preſſure, is generally evident, as is the caſe in every collection of matter not very deep-ſeated; but, independently of the fluctuation, all ſuch ſwellings afford a very peculiar elaſtic feel; yielding to preſſure, at the ſame time that they do not, like œdematous ſwellings, retain the mark, but inſtantly riſe again as ſoon as the preſſure is removed.

Theſe different collections, either upon breaking of themſelves, or on being laid open, diſcharge conſiderable quantities of matter, which at firſt is generally purulent, and of a pretty good conſiſtence: it ſoon, however, degenerates into a thin, fetid, ill-digeſted ſanies; and has never, at leaſt in proportion to the quantity diſcharged, any remarkable influence in reducing the ſize of the ſwellings, which

ſtill

ſtill retain nearly their former dimenſions.

If the orifices from whence ſuch matters flow are not by art kept open, they very ſoon heal up; and new collections forming in different parts, again break out and heal as before: So that, in long-continued diſorders of this kind, the whole ſurrounding teguments are often entirely covered with cicatrices that remain after ſuch ulcers.

Long before the diſorder has arrived at this ſtate, the patient's health has generally ſuffered conſiderably; firſt, from the violence of the pain, which is often ſo great, as to take away entirely both ſleep and appetite; and then, from the abſorption of matter into the ſyſtem, which always takes place in ſome degree from its firſt formation in the different abſceſſes; but which, indeed, never appears ſo evidently, till the ſeveral collections either burſt of themſelves, or are by inciſion laid open; when a quick pulſe, night-ſweats, and a weakening diarrhœa, always certainly occur; and generally, at laſt, carry off the patient,

patient, if the member be not amputated, or if a cure of the diſorder be not otherwiſe effected.

Theſe are the ſeveral ſymptoms of this ſpecies of white ſwelling, in all its different ſtages. We ſhall now, as was propoſed, enumerate the appearances which in general are obſerved on diſſecting ſuch ſwelled joints after amputation of the member.

§ 4. *Appearances obſerved on Diſſection, in the Rheumatic Species of White Swelling.*

In ſome caſes, the pain, even in this ſpecies of the complaint, is from the beginning ſo violent, that practitioners are led at once to conclude it to be of the worſt and moſt incurable kind: And patients, rather than ſuffer a long continuance of ſuch torment as it is often attended with, and after all remain uncertain whether a cure is to be obtained, frequently prefer the immediate amputation of the member.

Several ſuch inſtances I have ſeen, where the operation has been performed in very early periods of the diſorder. In all of

these, the only preternatural affection observed on laying open the swellings, was, a considerable morbid thickness of the surrounding ligaments, without any disease of the joint whatever; the bones and cartilages always remaining perfectly sound, and the synovia in a natural condition both as to quantity and consistence.

This thickening of the ligaments, tho' in general it appears in a greater or less degree, according as the complaint has been of longer or shorter duration, yet we do not find that it always does so; for in some recent instances, the ligaments have appeared more diseased than in others where the disorder had continued longer: In the former, indeed, the symptoms were always found to have been very violent.

In the more advanced stages of the disorder, when abscesses have formed in different parts; when the pain has been long very violent, with great addition of swelling; on laying open the parts, the thickening of the ligaments is then found to be more considerable, and is generally, if not always, attended with an effusion, into the sur-

ſurrounding cellular ſubſtance, of a thick glairy matter, which appears to be the cauſe of that elaſtic feel peculiar to ſuch ſwellings, formerly taken notice of in the deſcription.

The different abſceſſes or collections of matter are found to run in various directions through this glairy albuminous congeſtion, without, however, ſeeming to mix with it. In ſome few inſtances, again, together with collections of pus, a great many ſmall hydatides are obſerved; and in the farther progreſs of the diſorder, all theſe together form ſuch a confuſed maſs of different matters and ſubſtances, that it is almoſt impoſſible, by diſſection, to procure a more diſtinct view of them, than what preſents itſelf on their firſt being laid open.

Even all theſe appearances I have met with, without any affection of the bones of the joint; which, together with the ſurrounding cartilages, upon cutting thro' the capſular ligaments, remained perfectly ſound.

When, however, by a long continu-

ance

ance of the complaint, theſe ligaments come to be corroded by the different collections of matter, the cartilages, and in conſequence the bones, are very ſoon brought to ſuffer; the latter becoming carious, as ſoon as the former, by the acrimony of the matter, have been abraded.

The tendons of the flexor muſcles, which are always in this diſeaſe, as was already mentioned, very ſtiff and much contracted, do not, upon diſſection, exhibit any evidently morbid appearances, either with reſpect to hardneſs or enlargement.

We ſhall now, as was propoſed, give a deſcription of the other ſpecies of the diſorder.

§ 5. *Of the Symptoms of the more inveterate or Scrophulous Species of White Swelling.*

In this ſpecies of the diſeaſe, the pain is generally more acute than in the other; and, inſtead of being diffuſed, it is more confined to a particular ſpot, moſt frequently to the very middle of the joint.

In

In ſome inſtances I have known the patients ſay, they could cover the whole pained part with a crown-piece, or leſs.

The ſwelling is at firſt commonly very inconſiderable; inſomuch that, on ſome occaſions, even when the pain has been very violent, little difference, in point of ſize, could be obſerved between the diſeaſed joint and the oppoſite ſound one.

In this, as in the other ſpecies of the diſeaſe, the leaſt degree of motion always gives much pain: ſo that the joint being here too conſtantly kept in a bent poſition, ſtiffneſs and rigidity of the tendons come likewiſe ſoon to be produced.

As the diſorder advances, the pain turns more violent, and the ſwelling becomes more conſiderable, with an evident enlargement of the ends of ſuch bones as compoſe the joints.

In proceſs of time, the tumor acquires that elaſtic feel formerly taken notice of; varicoſe veins appear over its ſurface; and collections of matter occur in different parts of it: Theſe, upon burſting or being laid open,

open, discharge considerable quantities sometimes of purulent-like matter, but most frequently of a thin fetid sanies; and if a probe be introduced, and can be passed to the bottom of the sores, the bones are found carious, and pieces of them are often discharged at the openings.

On the farther continuance of the disorder, the constitution comes here likewise to suffer as in the first species of the disease; and a diarrhœa with night-sweats commencing, the patient, though naturally perhaps of the fullest habit, is reduced by loss of flesh to the most extreme weakness.

§ 6. *Appearances observed on Dissection, in the Scrophulous Species of White Swelling.*

When such joints are dissected, either after death, or after amputation of the member in the first stages of the disorder, the soft parts seem to be very little affected: but in all, even the slightest that I had ever an opportunity of seeing, there was constantly observed, an enlargement either of the whole ends of the bones, or of their

epiphyſes; frequently of thoſe on one ſide of the joint only; in others, again, the bones on both ſides have been affected.

This enlargement ſometimes occurs without any other evident diſeaſe: but in general, and always in a more advanced ſtate of the complaint, the ſoft ſpongy parts of ſuch bones are found to be diſſolved into a thin, fluid, fetid matter; and that too, in ſome caſes, without the cartilages which ſurround them ſeeming to be much affected. In proceſs of time, however, the cartilages come likewiſe to be diſſolved; and then the different matters, namely, the diſſolved bones and ſofter parts, mixed all together, exhibit, when ſuch ſwellings are laid open, a ſtill more confuſed collection than is generally obſerved even in the worſt ſtages of the other ſpecies of the diſorder.

Although it was remarked, that in the early periods of the complaint, the ſurrounding ſoft parts do not always appear to be much affected; yet, in its farther progreſs, they likewiſe are generally brought to ſuffer. The ligaments become thickened,

ened, and the contiguous cellular membrane filled with that viscid glairy kind of matter we mentioned when speaking of the other species of the disease.

§ 7. *Of the Causes of White Swellings of the Joints.*

HAVING thus given a particular account of the different appearances generally observed in both species of white swelling, we come now, in course, to the consideration of the different causes which tend to produce them: And, to go on in the same order with the descriptions that have been given, we shall first enumerate those that are particularly connected with that which we termed the first or rheumatic species of the disorder.

All such strains may be mentioned as causes, which particularly affect the ligaments of the joints, so as to produce inflammation; likewise bruises, luxations of the bones, and in short every derangement which can in any degree be attended with that effect.

A rheumatic diſpoſition, or Diatheſis, as it is termed, may here too be taken notice of as a principal cauſe of this ſpecies of white ſwelling; for, in every rheumatic affection, the parts moſt liable to be attacked are the ligaments of the joints, and other deep-ſeated membranes. The diſorders occurring moſt frequently in the large joints, eſpecially in the knee, is a ſtrong argument too for ſuppoſing that the rheumatic diſpoſition has a conſiderable influence in producing it; for it is well known, that rheumatiſm, in its moſt evident form, does really more frequently attack the larger joints than any of the ſmaller: And, in fact, we find this ſpecies of white ſwelling occurs more frequently in young plethoric people, in whom the rheumatic diatheſis moſt frequently prevails, than it ever does in thoſe of an oppoſite temperament.

That it is the ligaments of the joints only which are firſt affected in this diſorder, is from the hiſtory of the diſſections rendered evident; theſe, in the firſt ſtages of the complaint, being almoſt the only parts

parts that are found diseased. The effusions into the cellular membrane, of that thick glairy matter we have taken notice of, are probably occasioned by an exsudation from the vessels of those ligaments that have been originally inflamed, as it is known that such parts never furnish a proper fluid for the formation of purulent matter: In the course of the disease, indeed, abscesses containing real pus do always appear; but never till inflammation has been communicated to the surrounding parts, which more readily afford a fluid proper for this purpose.

I would therefore, upon the whole, conclude, that this species of white swelling is at first always occasioned by an inflammatory or rheumatic affection of the ligaments of these joints which it attacks, from whatever cause such inflammation may originally have proceeded.

The other species of the disorder, from all the symptoms enumerated, and from the different appearances on dissection, seems evidently to be originally an affection of the bones; the surrounding soft parts co-

ming only to ſuffer in the progreſs of the diſeaſe, from their connection with and vicinity to theſe.

This ſpecies of white ſwelling very ſeldom occurs as the conſequence of any external accident. It generally begins without the patient's being in the leaſt able to account for it. From the effects uſually produced on the bones which it attacks, it would appear to be a ſpecies of the real ſpina ventoſa; and which, again, is very probably a diſeaſe of the ſame nature in the bones that ſcrophula is of the ſoft parts. Indeed, the appearances of the two diſorders, after making allowances for their different ſituations, are exceedingly ſimilar: they both begin with conſiderable enlargements or ſwellings of the parts they invade; which afterwards in both, too, generally end in evident ulcerations; and they both likewiſe frequently occur in the ſame perſon, and at the ſame time.

It is likewiſe obſerved, that this ſpecies of white ſwelling is generally either attended with other evident ſymptoms of ſcrophula ſubſiſting at the time; or that the patient

patient in an earlier period of life has been subject to that disease; or, what is nearly the same, that he is descended from scrophulous parents, and consequently most probably has the seeds of that disease lurking in his constitution.

From all these circumstances, it may I think with probability be concluded, that this species of white swelling is commonly, if not always, of a scrophulous nature: And as it has already been shown, that the other species of the disorder is to be considered as an inflammatory, or what we have termed a Rheumatic, affection; and a thorough distinction of the two different species being, in the treatment, a matter of much importance; it will not here be improper to give a short enumeration of the several diagnostic or most characteristic symptoms of each.

§ 8. *Diagnosis.*

THE pain in the white swelling from a rheumatic disposition, is always, as was formerly remarked, from the beginning, diffused over the whole joint, and on some

occaſions extends even a conſiderable way along the muſcles that are attached to it: Whereas, in the other ſpecies of the diſorder, the pain is not only always at firſt, but ſometimes, even when the complaint has been of conſiderable ſtanding, confined to a very ſmall circumſcribed ſpace.

In the former, the ſwelling is always confined to the ſoft parts, and is from the beginning exceedingly evident: but, in the latter, there is ſeldom for ſome time any perceptible ſwelling; and when it does more ſenſibly appear, the bones are found evidently to be the parts chiefly affected, the ſurrounding teguments coming only to ſuffer on the further progreſs of the diſeaſe.

Theſe are the chief local differences of the two ſpecies of this diſorder; but ſome aſſiſtance in the diſtinction may likewiſe be obtained, from conſidering the general habit of the patient, and the manner in which the complaint may ſeem to have been produced.

Thus, when ſuch ſwellings occur in young, ſtrong, plethoric people, and eſpecially

cially in those who have formerly been subject to rheumatism; whether they have been the immediate consequences of external accidents or not, they will most probably always prove to be of the mildest or rheumatic species of the disorder.

Whereas, when swellings of this nature appear in such patients as are otherwise evidently of scrophulous dispositions; where, together with a fine skin and delicate complexion, there are either, on examination, found to be hardened glands in the neck, arm-pits, or inguina; or it is discovered that the patient may be liable to such complaints from inheritance: when either any or all of these circumstances occur, and if the disorder has begun in the manner formerly described, without any evident external cause, we need be under very little doubt in concluding it to be of a scrophulous nature.

The great utility of properly distinguishing the two different species of white swelling appears in no circumstance so evident as in the treatment: In the one, there is some chance, by proper remedies, of being ser-

ſerviceable to the patient; whereas in the other, viz. in the ſcrophulous, it is not probable that art will ever be able to afford much aſſiſtance.

SECTION II.

Of the Treatment of White Swellings.

§ 1. *Of the Effects of an Antiphlogiſtic Courſe in the Rheumatic Species of White Swelling.*

IN the rheumatic white ſwelling, as it is always at firſt evidently of an inflammatory nature, conſiderable advantages are commonly obtained from a due attention to an antiphlogiſtic courſe.

The firſt remedy which, with this view, ſhould be employed, is blood-letting; but inſtead of general evacuations from the arm or elſewhere, it proves always more effectual

effectual to take blood immediately from the part affected. Cupping and scarifying is here a principal remedy. The instrument should be applied to each side of the diseased joint; on each side of the rotula, for instance, when the knee is the part affected, at least eight or ten ounces of blood should be discharged; and this should be repeated at proper intervals, once, twice, or oftener, according to the violence of the symptoms, and state of the patient's strength at the time.

In the ordinary way of discharging only an ounce or two of blood by this operation, it has, in general, very little or no influence; but in the quantities mentioned, which, by those accustomed to the practice, are commonly easily obtained, it is most frequently attended with very considerable effects.

It must here be observed, that cupping is in these cases much superior to the application of leeches; which is not only a more tedious method of procuring the same quantity of blood, but the swelling occasioned by the application of any consider-

able

able number of them proves frequently very troublesome; and, what is often of worse consequence, it frequently gives an interruption, for a time, to the use of other remedies. In some instances, however, when the swelling of the joint is considerable, it proves difficult, or even impracticable, to procure a sufficient quantity of blood by cupping: In such cases, we are under the necessity of applying leeches, which seldom fail of obtaining as much blood as is required.

Upon the anterior part of the joint, where the cupping-glasses or leeches have not been placed, a small blister should be directly applied; and the part should be kept open with issue-ointment, till the wounds from whence the blood was discharged are so far healed, that a vesicatory may likewise be laid on one side of the joint; and as soon as this is nearly healed, the other side should be also blistered.

By thus alternately applying them, first to one side, and then to the other, almost a constant stimulus is kept up; which, in deep-seated inflammations, seems to have

have fully a more powerful influence than all the difcharge occafioned by blifters.

Gentle cooling laxatives, at proper intervals, are here of ufe too; and the patient fhould, in every refpect, be kept upon a ftrict antiphlogiftic courfe, both as to diet and every other circumftance: From a due attention to which, with a continuance of the topical treatment already recommended, I have frequently obferved very confiderable advantages, more indeed than from any other remedies I had ever an opportunity of ufing in this complaint.

It is in the firft ftages only, however, of the difeafe, that fuch a courfe can probably be of much fervice; and in thefe, I am, from experience, convinced, that it has frequently effected cures in cafes which otherwife would probably have proceeded to the laft ftages of white fwelling.

The original inflammatory affection being removed, drains of this kind feem to have little or no influence; and ought not now to be long perfifted in, as they tend to prevent the ufe of other remedies,

which,

which, in an advanced ſtate of the diſeaſe, prove commonly more efficacious.

§ 2. *Of the Effects of Mercury, Friction, and other Remedies, in the more advanced Stages of White Swelling.*

THE inflammation being moſtly gone, and while there are yet no appearances of the formation of matter, mercury I have ſometimes known of uſe; not given ſo as to ſalivate, but merely to affect the mouth gently, and to keep it ſomewhat ſore for a few weeks.

The beſt form of uſing mercury, in ſuch caſes, is certainly by way of unction; as it allows, at the ſame time, of the application of friction, which in all ſuch ſwellings may of itſelf in ſome meaſure be conſidered as a remedy. For this purpoſe, an ointment of quickſilver and hog's lard ſhould be prepared; but with ſo ſmall a proportion of the former, that two drachms of the ointment may be ſafely rubbed in, three times a day. In order to rub in that quantity of the medicine with gentle friction, and ſo as to receive all the advantages

that

that attend the practice, an hour at least should be spent each time in rubbing; for, however useful friction in such cases may be when properly applied, in the ordinary way of continuing the remedy for a few minutes only, it is not probable it ever can have much influence.

Gentle mercurials, given internally, are here sometimes of service; but, as all the advantages to be derived from them in this form, are obtained from the unction, together with any benefit that may ensue from the friction used in applying it, the latter should certainly be preferred.

By Le Dran, and other French writers, falls of warm water on swellings of this nature are much recommended; and there is much reason to think, that a long continued and reiterated application of this remedy, may, in the first stages of these complaints, be often attended with very good effects. Of this, indeed, I have now had many opportunities of being convinced; and, from the well-known relaxing property of moisture when conjoined with heat, there is the greatest reason to imagine,

imagine, that a proper application, eſpecially of warm emollient ſteams, will, if it is ever generally employed, be found to prove more ſerviceable in diſorders of this kind, than perhaps any other remedy.

In the uſe of warm water in caſes of white ſwelling, the friction occaſioned by its fall on the part, independent of every other circumſtance, may probably have a very conſiderable influence: At leaſt this, I think, is the principal effect which cold water can in this way produce: I have known it frequently uſed, and, on ſome occaſions, with advantage.

By a proper uſe of theſe different applications, namely, of the ſeveral topical remedies in the firſt or inflammatory ſtate of the diſeaſe, and afterwards, but ſtill before the formation of matter, of mercurials, friction, &c. many affections of this nature have been entirely removed: But, in many inſtances, when, either by the uſe of medicines, or by an effort of nature, the ſwelling and pain are almoſt entirely, or even wholly removed, it frequently happens, by the bent poſition in which the limb

limb has for a long time been kept, that the uſe of the joint comes to be entirely loſt, as it often contracts ſuch a degree of ſtiffneſs, that any attempts to move it are commonly attended with very great pain.

Unluckily, in all ſuch caſes, theſe affections of the joints have been conſtantly attributed to one or other of two different cauſes, which are both in their nature incurable; namely, either to the ends of ſuch bones as compoſe the joints having run into one another, ſo as to become firmly conjoined in conſequence of the ſurrounding cartilages being abraded; or to the inſpiſſation, as it is termed, of the ſynovia of the joints, whereby their cavities are ſuppoſed to be entirely filled up, and no ſpace thereby left for the motion of the bones.

Both of theſe opinions, however, I can, from a great number of facts, aſſert to be, in general at leaſt, very ill-founded; for although, by an abraſion of the cartilages which ſurround the different bones at the joints, an union of their extremities may very readily be occaſioned, and is no doubt on ſome occaſions the cauſe of ſuch affec-

tions; yet, from a variety of diſſections, I am convinced that it is an exceeding rare occurrence, and, in caſes of white ſwelling, never happens but in the moſt advanced ſtages of the diſorder: the only cauſe almoſt of the ſtiffneſs of the joints, in ſuch caſes, being that contracted ſtate of the flexor tendons, formerly taken notice of in the deſcription; at leaſt, in nineteen caſes out of twenty, it ſeems to be ſo.

There is nothing indeed more deceiving than the feeling on ſuch occaſions; for when the diſorder has been of long duration, the ſtiffneſs and immobility of the joint are generally ſo conſiderable, as, at firſt ſight, to make it ſeem very probable, or almoſt certain, that a real conjunction of the bones had taken place: Many inſtances of this I have known, which had been all along conſidered as real anchyloſes of the worſt kind; but which, on diſſection, were conſtantly found to proceed merely from a contracted ſtate of the flexor muſcles and tendons.

With reſpect to the other opinion, which formerly prevailed ſo univerſally, and

which is ſtill held by many, that affections of this kind generally proceed from an inſpiſſated ſtate of the ſynovial fluid, it has for ſome time been much doubted by many anatomiſts, whether or not ſuch a ſtate of that fluid ever occurs; and from all the opportunities I have had of diſſecting ſuch diſeaſed joints, I am much convinced, that it either never does take place, or at leaſt that it is an exceeding rare occurrence. For, in every caſe of this kind I have met with, even when the diſeaſe had been of long continuance, if the capſular ligament of the joint remained undivided, ſo that no matter from the ſurrounding ſoft parts got admittance, and when the ends of the bones were not become carious, the ſynovia always retained its natural colour and conſiſtence: So that it is very probable, the many cauſes of diſeaſed joints, which have been attributed to affections of this fluid, have been more founded on mere hypotheſes, than on facts and experience.

As this ſtiffneſs of the joint, therefore, which to a certain degree always occurs in white ſwellings, proceeds ſeldom or never from either of the cauſes mentioned,

which might probably both be confidered as incurable, but merely from a preternatural contraction of the mufcles and tendons, we have from this circumftance great reafon to expect, that, in many fituations, a good deal may be done towards its removal. And in fact, there is no doubt but that complaints of this kind, which often remain after every other fymptom of white fwelling has difappeared, may, on many occafions, be removed, merely by a long continued ufe of emollients: feveral inftances, indeed, of this, I have feen, fome of which had been thought to be of the worft fpecies of anchylofis.

The beft, and probably the leaft offenfive, emollient that can be ufed, is pure olive oil applied warm. As much of it as can be eafily confumed by an hour's gentle friction, fhould be regularly rubbed in at leaft three times a day: and inftead of confining the friction entirely to the rigid tendons, which is the common practice, it fhould be extended over the whole mufcles, even to the infertions of their other extremities; but more efpecially on their flefhy

fleshy muscular parts, where the principal cause of the continuance of such complaints is probably seated; these parts being chiefly, if not altogether, possessed of the contractile, and consequently of the resisting, powers.

I have known used, too, in this complaint, as an emollient, and often with advantage, an oil extracted from animal substances, known by the name of Neats-foot Oil: but as it is more apt to turn rancid than olive oil, it is not such a pleasant application; and as it is not possessed of any superior relaxing properties, the other will probably, for that reason, be commonly preferred.

The disorder now under consideration, namely, a stiff joint, is so evidently one of those which particularly require the use of emollients, that almost every old woman has some particular form or other of recommending them; one of which I cannot avoid mentioning, as I have frequently known it used, and, in two cases particularly, with very evident advantages, viz. the web or omentum of a new-killed sheep, or of any other animal, to be ap-

plied over all the diſeaſed parts directly on being cut out of the animal.

In the two caſes alluded to, one was in the knee, and the other in the hand; and the motion of the joints, after having been totally loſt, was almoſt perfectly reſtored. The application ſhould be renewed as frequently as poſſible, once a day at leaſt, or oftener when it can be done: for on being more than four or five hours applied, it becomes diſagreeable; and, after that time, indeed, as it commonly turns ſtiff, it cannot then probably be of much ſervice. The ſame kind of remedy, uſed in ſomewhat a different manner, I find recommended by LIEUTAUD, a celebrated French practitioner *.

I have been the more particular on this part of the ſubject, as I have often thought, that, with a little attention, the uſe of many joints might be recovered, which, from a miſtaken notion concerning their cauſes, have

* Mr Lieutaud ſays, when ſpeaking of ſuch affections, "Obvolvitur etiam pars affecta pelle calida verveeis, vituli, alteriuſve pecudis, recens mactati, vel immittitur in imum ventrem bovis, vitali calore haud defraudatæ." Synopſis Univerſae Praxeos Medicæ, vol. I. p. 400.

have generally from the first been consider-ed as incurable.

The disorder has hitherto been supposed not to be so far advanced as to have occa-sioned the formation of matter; for, when it is come that length, no considerable ad-vantages can be expected from any of the remedies we have recommended: but, even in this state of the complaint, if the pa-tient's health does not absolutely require it, amputation of the member should by no means be performed immediately, as it most frequently is. For, by paying atten-tion to open the different abscesses soon after their formation, the matter may be pretty certainly prevented from affecting, or essen-tially injuring, the capsular ligaments of the joints; the destruction of which would no doubt render amputation necessary.

By the use of the seton, as was formerly directed in other cases of imposthume, the discharge of such collections is cer-tainly and easily effected; is never at-tended with any inconvenience; and has sometimes been, and may frequently be, a means of saving many such diseased joints. At least, when a limb is at stake, the prac-

tice recommended is on all occafions worth trying: and there never, it is probable, can be any well-grounded objection made to it, unlefs the patient's conftitution be fo much reduced as to produce much rifk from any farther delay; in which cafe, amputation is, no doubt, to be immediately performed: though, if fuch abfceffes as occur be opened foon after their firft formation, there will always be fufficient time for obferving what advantages are to be obtained from the difcharge which is thus produced.

It is neceffary, however, to remark, that it is in collections of matter only for which we here mean to recommend the ufe of fetons; for it frequently happens, in rheumatic affections of the larger joints, that effufions of ferum take place in very confiderable quantities; which, merely by the application of moderate friction to the parts affected, are frequently altogether abforbed. This, however, happens rarely in abfceffes of real purulent matter: fo that whenever collections of this nature occur upon a joint, they ought to be difcharged; and the fafeft method of effecting

it,

it, is undoubtedly by the introduction of a seton.

With respect to the most proper period of the disease for amputating limbs diseased in this manner, it may be observed, that, even in point of success from the operation, it ought never to be advised till the complaint is pretty far advanced. For though, *à priori*, it might be imagined, that the more early, in the disease, amputation of the member is employed, the more successful it should prove; and although this, indeed, has been made use of as a common argument for amputating very early in every case of white swelling; yet, however plausible the observation may appear, it will not, from experience, I am persuaded, be found to hold good. For, in this disorder especially, I have constantly observed, that amputation has more frequently succeeded, that is, a greater proportion of such patients have recovered from it, who have previously been considerably reduced by diarrhœa and other weakening symptoms, than of such as have still remained in a full plethoric habit of body.

In the former, when the constitution has

not

not been too much broken, and we have it always in our power to guard againſt its being ſo, the ſeveral ſymptoms of hectic fever, which previouſly took place, are commonly removed in a very few days after the limb is taken of: No high inflammatory affections are ever produced; the patient daily improves in his health; and a complete cure, if he has not been too much reduced, is generally very ſoon obtained. In the latter again, the very reverſe of all theſe circumſtances occurs: The patient, from being in high health at the time of the operation, is generally thrown into a ſmart inflammatory fever; which is, no doubt, very often removed, but which frequently either carries off the patient immediately, or produces ſuch effects as he never thoroughly recovers from.

So that in no caſe whatever is it proper to have recourſe to amputation, until every probable means for ſaving the limb has been tried in vain.

All the means we have hitherto recommended, relate particularly to the rheumatic ſpecies of the diſorder; and when employed in time, and duly perſiſted in, they will fre-

frequently be found of service: but when the disease is so far advanced as to have destroyed the capsular ligaments of the joint, and perhaps even the cartilages and bones themselves, amputation of the member is then no doubt the only resource.

In the more fatal species of white swelling, namely, the scrophulous, as I know no certain remedy for scrophula, even in its milder form in the soft parts of the body, I cannot here pretend to offer any thing satisfactory upon the subject.

In the small joints, when the diseased parts of the bone begin to cast off, a cure may be sometimes promoted by assisting the efforts of nature; but in all the large joints, particularly in the knee and ancle, it is not probable that any other resource than amputation will ever afford much relief. And even the effects of this operation can seldom be depended on as lasting: for when the general scrophulous disposition still subsists in the constitution, the disorder will most probably appear again in some other part; which, however, in the advanced stages of the disease, it is sometimes necessary to run the risk of, the pain being

often

often fo tormenting as to make it more eligible to fubmit to any hazard rather than to bear it longer.

When, however, for fome reafon or other, amputation is determined againft, by there being almoft a certainty that the complaint will foon return, from the fcrophulous difpofition's appearing very ftrong in the fyftem, it then becomes neceffary to have recourfe to palliatives, fo as to render the complaint as tolerable as poffible; and, with this view, opiates in large dofes, by moderating the pain and procuring reft, will, in general, be found to be the principal remedy.

In other refpects, all fuch medicines and articles of regimen, as are found to prove beneficial in fcrophula, are advifable; but for thefe, as it would be foreign to the intention of this treatife to enumerate them, a former fection of the fecond part of this work, together with fuch authors as have written more fully on the fubject, may be confulted.

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